RAILWAY FREIGHT WAGONS of New South Wales

John G Beckhaus

FOREWORD

The aim of this book is to present a detailed account of the wagons operating in New South Wales in 1970. It is intended to be a guide for both modellers of the New South Wales Railways and followers of the prototype.

This list is dated 30th June 1970 but includes wagon orders curently being delivered.

The dimensions given are the over body length and width measurements and the height above rail level, These measurements are the most usefull to modellers; official measurements are usually the over couplers and handrails dimensions. The length over couplers on Auto-coupled wagons is 2'10" longer.

A variation in the heights of louvre vans has arisen with the replacement of the double corrugated steel roof with a smooth roof.

The average Tare weight is given but particular wagons may vary slightly.

I wish to acknowledge the assistance given, in various stages of the production of this book, by:-

John J Bevan, W.K. Boucher, Peter Clark,
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Plate no. 25 Robert Kable.
Plate no. 34 Ray Wurlod

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New South Wales Digest 1963 - 1970.
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Farewell Narrow Gauge by ARHS South Australian Division.
SAR Rolling stock by South Australian Railways.
VR Rail Wagons for every Freighting need by Victorian Railways.

Also information supplied by the Research and Information section of the New South Wales Railways. Plans and Photographs of the various wagons are av ilable from this section at Railway House.

Regular sections containing information on new rolling stock as well as conversions and modifications to existing rolling stock are contained in the monthly magazines listed above.

RAILWAY FREIGHT WAGONS of New South Wales

compiled by

John G Beckhaus

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for

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INTRODUCTION

The New South Wales Railways is operated as a department of the NSW State Government. The Head Office is located in Railway House 19 York St., Sydney at Wynyard station.

The track gauge is the standard 4'8½" gauge and the route mileage is 6,061 miles.

The main lines radiate from Sydney, north to South Brisbane (613 miles), Wallangarra (492 miles) and Moree (414 miles); west to Broken Hill (699 miles) and Bourke (513 miles); south to Albury (399 miles), Griffith (396 miles) and Cooma (268 miles) and the Illawarra line to Nowra (95 miles).

There are many branch lines junctioning off the main line with the main concentration of branch lines covering the Wheat producing areas along the Western slopes of the great divide and the Western plains. Cross country secondary lines extend from Junee and Cootamundra in the south to Werris Creek in the north.

The main exporting Ports are located at Sydney, Newcastle and Port Kembla with the two larger marshalling yards located at Enfield, Sydney and Broadmeadow, Newcastle. Terminal yards are located in Sydney at Cooks River, Alexandria, Darling Harbour and Rozelle. Cooks River and Alexandria goods yards handle freight to and from city and suburbs for country and interstate destinations. Darling Harbour handles export and import general traffic as well as traffic for the inner city area and Rozelle is mainly an export terminal for coal and wheat and for overseas container traffic.

Port Waratah and Bullock Island yards handle general overseas and coastal trade through Newcastle and steel products from BHP, but also handle export coal and wheat. Port Kembla handles coal, as well as other traffic to and from the Steelworks and the south coast and the southern areas of the state.

Marshalling and terminal yards are located at most large country towns with extensive yards being located at Grafton, Werris Creek, Lithgow, Bathurst, Orange, Dubbo, Parkes, Cowra, Goulburn, Cootamundra, Temora and Junee.

Codes and Numbers

There are approximately 20,000 NSWR revenue freight wagons in service as well as approximately 12,000 privately wagons, 2,500 NSWR non-revenue wagons and interstate wagons operating over the system.

NSWR uses an alphabetical coding system with some codes based on the wagon type or description, but most codes are letters chosen only to distinguish between the wagon types. The wagons are numbered from 1 - 35,000 with some wagon types being numbered in blocks while others have been allocatedexisting vacant numbers. This practise of using vacant numbers at random has mainly ceased with most new wagons recieving new block numbers and extensive rebuilds recieving vacant block numbres. Modified wagons usually retain the original number.

All wagons able to be passed through Bogie Exchange plants have the letter 'X' as the last letter in their code. The modification to the wagons is internal in the brake rigging, to enable the brakes on the bogies to altered to the different systems in use by the various Railways.

Couplers and Brakes

Screw couplings and buffers was the coupling system in use prior to the 1930's when the program to convert all wagons to automatic couplings was instituted. During the 1930's and 1940's wagons were progressively converted to automatic couplers, retaining the buffers. Commencing in the early 1950's new wagons were fitted with automatic couplers and were bufferless. An exception was livestock wagons.

For interstate operation wagons must not be fitted with buffers as other states have all auto coupled bufferless stock. NSWR livestock wagons are having their buffers removed.

The Westinghouse air brake system is the standard braking system in Australia and is fitted to all standard and broad gauge rolling stock in main use. The exception is the private four wheel wagons operating on the NSW coal fields, which have only hand brakes, and some narrow gauge systems that have vacuum brakes.

A hand brake is fitted to all rolling stock, NSW wagons have the hand brake wheel mounted on the left hand end of the wagon side operated from ground level. Some states systems have ratchet hand brakes mounted on one end of the wagon, operated from a small platform at the wagon end.

Colour Scheme

The general colour scheme has been the standard black livery with black undergear and white roofs on vans. The exceptions have been wooden refrigerator vans, that have been painted white with either white or black roofs and black undergear, and steel refrigerator vans, 'Tin plate' louvre vans and open wagons which have been painted silver. Brake vans have had black bodies with white roofs.

The commencement of through interstate wagon operation, both by standard gauge or bogie exchange has lead to the improving of the colour scheme. Bogie brake vans are now repainted indian red with silver roofs, black undergear and yellow lining and lettering. An 'NSWR' nameboard is now painted on the van side. Some wagons have also had 'NSWR' nameboards fitted on the side. The first 'Indian Pacific' Sydney - Perth freight express was painted deep blue with black bogies and white roofs. Some new wagons have entered service in this colour scheme which may become the standard colour scheme for bogie wagons.

The lettering on wagons is painted white with the wagon code, number and tare weight normally located on the left hand side of the wagon near the base. Any special instructions can also be placed here although these notices can appear elsewhere on the wagon side. The number is also located on the wagon underframe.

Wagon Construction

The purchase of wagons by the NSWR is by tender,and most orders in recent years have gone to outside contractors although some orders have been placed with Railway Workshops. Maintenance and rebuilding of older stock is mainly carried out by the Clyde Wagon Works although some work on four wheel wagons is done by smaller workshops located in various country locomotive depots. Wagon repainting is carried out by Clyde Wagon Works or Eveligh Carriage Works at Redfern. The Chulora Rolling stock Workshops carries out some maintenence but is mainly for railcars and the construction of new wagons. The Clyde Wagon Works also constructs new wagons.

Contractors who have supplied freight wagons in present service include:-

Clyde Engineering Co. Granville.
Waddingtons Ltd. Granville (During 1947 renamed to-)
Commonwealth Engineering Co. Ltd.
A.E. Goodwin Ltd. Auburn (Formerly located at St. Marys)
Superior Weld Ltd. St. Marys (Former A.E. Goodwin works)
A. Goninan & Co. Broadmeadow
Tulloch Ltd. Rhodes
Ritchie Brothers Ltd. Auburn (ceased production during 1954)

Wagonfabrik Talbot Aachen Germany
Birmingham Railway Carriage and Wagon Co. Ltd. UK
Metropolitan Cammel Carriage and Wagon Co. Ltd. Birmingham UK

New wagons on order:-

50 BCX flatwagons from Commonwealth Engineering.
40 EMX 45' flatwagons from Commonwealth Engineering (similar to HME)
30 OCX 63' Container wagons from Tulloch.

New Tenders:-

50 KHC Brake Vans
30 OCX Container Wagons

Bogies

NSWR has a coding system for bogies consisting of,the number of axles and a two letter distinguishing code. In this book the bogies have been listed under the recognised standard name where practical. NSWR special types have been listed under the most common code. Within a type of bogie there may be varying codes.These are mainly from different contracts or slight changes in internal structure of the bogie.

Bogie Type	Wheelbase & Diameter		Bearing Type	Notes
Archbar	5'6"	33"	Plain	Plate no. 1
Outside Equalised	6'6"	36¼"	Plain	SHG vans only
Rivetted	6'6"	37"	Plain	Plate no. 2
2AA	5'9"	37"	Plain	In passenger use
2BK	7'0"	37"	Plain	In passenger use
Andrews	5'6" - 5'9"	33" - 37"	Plain - Roller	Plate no. 3
Bettendorf	5'6" - 5'9"	33" - 37"	Plain - Roller	Plate no. 4
Pennsylvania	6'5"	37"	Plain - Roller	SCE wagons only
Symington	5'9"	36¼"	Roller	Bogie exchange
Top hang Clasp brake	5'9"	36¼"	Roller	Plate no. 6
Low hang Clasp brake	5'9"	36¼"	Roller	Plate no. 5
2AT	6'6"	36¼"	Roller	Plate no. 7
2BJ	6'6"	36¼"	Plain	Plate no. 8

All roller bearing bogie types are used under bogie exchange wagons and for interstate wagons via standard gauge. All wagons unloaded by tippling will be fitted with roller bearing bogies, as the oil has sometimes drained out of the plain bearing boxes while the wagon has been inverted. Plain bearing bogie wagons, with the exception of those wagons fitted with Archbar or Outside Equalised bogies, can operate at express speeds. Archbar or Outside Equalised bogie wagons are limited to 40 MPH.

Four Wheelers

Four wheel wagons have 37" diameter wheels with plain bearings. The UT type will be fitted with roller bearings for tippling.

At present, with the exception to the North Coast line beyound Grafton, four wheel wagons can operate throughout the state. Four wheel sugar cane wagons only are operated on a section of the Murwillumbah branch.

All four wheel wagons are limited to 40 MPH.

Bogie Louvre Vans

MLV type

There are many variations of this type of louvre van, but they can be grouped into four basic types:

Type 1 - 24 ton capacity MLV
Type 2 - 40 ton capacity MLK
Type 3 - 28 ton capacity MLV, MLK
Type 4 - 29 ton capacity MLV

Most of the earlier vans were built as BLV louvre vans but have been extensively rebuilt during heavy overhauls and fitted with improved bogies to permit express operation. Some orders for BLV and MLV vans were allocated block numbers but most received various numbers, some being the original number carried by the underframe. All vans have steel underframes and most have wooden and steel bodies. The rivetted bogie is mostly used, although some vans have had Bettendorf or 2BJ type fitted. All vans have two 5'0" x 6'2" double opening doors fitted each side and originally had double corrugated steel roofs. Many vans are now fitted with a smooth curved roof.

MLV 24 ton

Length: 36'0" Width: 8'9" Height: 12'0" Bogie centres: 25'1"
Tare: 21 tons Capacity: 24 tons Bogies: Rivetted
Number in service: 111

These louvre vans were smaller BLV vans that were rebuilt and fitted on "fish belly" underframes built by Tulloch Ltd during 1957-8. The sides and ends are fully louvred except for a smooth panel at the base and top of each section. They also have an external V-shaped steel bracing bar between the doors on each side. They have two compartments. Plate no.9

MLV 28 ton

Length: 40'0" Width: 9'1" Height: 13'0" Bogie centres: 29'0"
Tare: $20\frac{3}{4}$ - $22\frac{3}{4}$ tons Capacity: 28 tons Bogies ; Rivetted

These louvre vans, though built in three groups, are similar in appearance having louvred sides and ends with a panelled letter and base board. There are variations in tare weight and in roof outline and height. They have two compartments. Plate no.10

Group 1: BLV vans upgraded to MLV by strengthening frames and fitting heavier bogies. These vans have various numbers.

Group 2: MLV vans built in four orders;
75 from Clyde Engineering, delivered 1935-6, allocated various numbers,
50 from Tulloch Ltd, delivered 1937-8. Numbered 12001-50,
24 from Ritchie Bros., delivered 1942-3. Allocated various numbers,
25 from Waddingtons, delivered 1946-7. Numbered 23251-75.

Group 3: 100 MLV bodies from Clyde Engineering, delivered 1950. These bodies were mounted on BE flat wagon frames, retaining the BE number.

Number of this type in service: 235

MLV 29 ton

Length: 40'0" Width: 9'1" Height: 12'10½" Bogie centres: 29'0"
Tare: 20½ tons Capacity: 29 tons Bogies: Rivetted
Number in service: 22

These louvre vans have aluminium bodies mounted on shortened LE flat wagon frames. They can be identified by their metal braced, peaked roofs and the fully louvred sides and ends. The only parts of the sides which are smooth are the two short panels above both doors. These vans have two internal compartments. They were built by Railway Workshops and delivered during 1947. They are numbered 25675-99. Plate no.11

MLK vans are MLV vans permanently fitted with internal tanks for carriage of milk. These tanks have been fitted for many years, but the vans have only been separately coded in recent years.

MLK 28 ton

These are 28 ton MLV vans of all types that have been fitted with two 2000 gallon capacity milk tanks.
Number in service: 82

MLK 40 ton

These are larger type BLV vans which were all fitted with internal milk tanks when upgraded to MLV standard. These vans vary in appearance from other MLVs by having only the doors, some side panels and the centre section of the ends louvred. They have a single compartment and have a capacity of 4000 gallons. They are numbered 21137-86.

Length: 40'3" Width: 8'6" Height: 13'0" Bogie centres: 29'2"
Tare: 22½ tons Capacity: 40 tons Bogies: Rivetted
Number in service: 32

LLV type

These louvred vans are of all steel construction, with fully louvred sides and pressed metal braced, semi-louvred ends. They have two 5'4½" x 6'6" double outward-opening doors each side and have a smooth curved roof.

There were 575 vans built in three orders:

300 from Birmingham Carriage and Wagon Co. Ltd. UK, assembled by A. E. Goodwin and delivered 1951-3. Allocated various numbers.

75 from Tulloch Ltd, delivered 1958-9. Numbered 29425-99.

200 from A.E. Goodwin, delivered 1961-5. Numbered 31361-360.

The vans delivered from 1964 onwards were built with heavier underframes and bogies and were coded GLV. From 1958 a number of vans, coded TLV, have had a heavier centre partition fitted and are used for the conveyance of tinplate products from Port Kembla. The TLV and TLX vans are painted silver.

Length: 45'0" Width: 9'2¾" Height: 12'8¼" Bogie centres: 34'0"

LLV

A louvred van divided into two 22' compartments. Plate no.12
Tare: 21½ tons Capacity: 40 tons Bogies: Andrews
Number in service: 295

TLV

A LLV van for tinplate traffic.

Tare: 23 tons Capacity: 40 tons Bogies: Andrews

Number in service: 3

TLV

A TLV van with a strengthened floor.

Tare: 27 tons Capacity: 45 tons Bogies: Low-hang Clasp Brake

Number in service: 24

TLX

A 45 ton capacity TLV fitted for bogie exchange.

Number in service: 29

GLV

An LLV van with a strengthened floor.

Tare: 25 tons Capacity: 47 tons Bogies: Low-hang Clasp Brake

Number in service: 163

GLX

A GLV van fitted for bogie exchange.

Number in service: 46

HLX

These single compartment louvred vans are similar to the LLV vans but have only one 12'8¾" x 6'6" double inside sliding door each side, located approximately one third of the distance from the van end.

The original order was for seventy five 40 ton capacity vans coded HLV from Tulloch Ltd, delivered 1959-60. They are numbered 29550-624. Commencing in 1963 all vans were fitted with strengthened underframes and heavier bogies and were recoded BLV. When bogie exchange was fitted they were recoded HLX.

Length: 45'0" Width: 9'2¾" Height: 12'8¼" Bogie centres: 34'0"

Tare: 24 tons Capacity: 47 tons

Number in service: 72

JLX

A high cubic capacity louvred van. They can be used for palletized loadings and the floor is suitable for fork-lift trucks.

These vans have louvred sides and doors with a high arched roof. The ends are of smooth panelling with external square bracing. They have a 15'0" x 7'5¼" double outside sliding door in the centre of each side.

The order was for 135 vans from Tulloch Ltd, delivered 1969-70. They are numbered 33801-935.

Length: 56'0" Width: 9'2½" Height: 13'3" Bogie centres: 41'0"

Tare: 26 tons Capacity: 47 tons

Number in service: 135.

Four Wheel Louvre Vans

LV

These vans have fully louvred sides and ends with a smooth curved roof; although some vans retain the corrugated steel double roof. They have a 5'0" wide double opening door each side. Most vans were fitted with a standard steel underframe during 1948-53 and have a cubic capacity of 951 cub. ft., but there are approximately 20 vans that retain the I beam or channel underframes and have a cubic capacity of 1002 cub. ft. and a slightly lower tare weight. Plate no.21

Length: 18'0" Width: 8'6" Height: 11'10" Wheelbase: 10'0"
Tare: $8\frac{3}{4}$ tons Capacity: 5 tons
Number in service: 165

GT

These vans were built by Railway Workshops between 1929 and 1943. The earlier cars were new vans while the later vans were built using the underframes of KY carriage trucks.

They have louvred sides with smooth ends and a curved roof. There is a 4'6" wide sliding door each side and all vans are painted in the passenger colour scheme of Tuscan Red. They are used exclusively on country branch lines being towed by CPH railcars. They are equipped with small railcar-type buffers and screw couplings. Plate no.22

Length: 15'0" Width: 8'10" Height: 10' 10 5/8" Wheelbase: 9'6"
Tare: 4 tons Capacity: 5 tons
Number in service: 6 Road nos: 71, 73, 74, 78, 79, 82 (CPH numbers)

Refrigerator Vans

MRC

These refrigerator vans have wooden bodies mounted on steel underframes. They have insulated sides and ends with a 2' long, 1 ton ice compartment at both ends. They have an arched roof with four roof hatches on both sides of a centre catwalk. Most vans have white sides, ends and roofs and black undergear. They have a 5'0" x 6'6" double opening door in the centre of each side.

There were 249 vans built between 1933 and 1950 in seven orders:

17 from Railway Workshops, delivered 1933, numbered 22854-70
27 from Ritchie Bros., delivered 1934, numbered 22871-97
30 from Ritchie Bros., delivered 1938, numbered 22898-927
25 from Waddingtons, delivered 1941-2, numbered 22928-52
25 from Waddingtons, delivered 1943-4, numbered 22953-77
50 from Waddingtons, delivered 1945-6, numbered 25050-99
75 from Commonwealth Engineering, delivered 1948-50, numbered 25700-74

Commencing in 1957, most of the MRC vans were converted for use as covered vans.

Length: 38'0" Width: 9'3" Height: 13'1¼" Bogie centres: 27'0"
Tare: 31 tons Capacity: 20 tons Bogies: Rivetted
Number in service: 58

GRC

An MRC van that has been converted for cooling by the use of liquid nitrogen or carbon dioxide. It has a 3' long full width and height compartment at one end where the refrigerator equipment is mounted and there is an outwards-opening door into this compartment. The chilling of goods is effected by spraying liquefied gases into the main compartment with the result that the liquid vaporizes and absorbs heat, thus cooling the van. This van was converted during 1965 and is numbered 25702. Plate no.13

Tare: 30 tons Capacity: 20 tons
Number in service: 1

TRC

These are all steel refrigerator vans. They have a peaked roof with a centre catwalk and eight roof hatches. They can carry two tons of ice for cooling and have a 5'0" x 6'6" double opening door each side. Externally, they are painted silver. Plate no.14

There were 260 vans built in three orders. They are numbered 31101-360.

50 from Tulloch Ltd, delivered 1951-4
60 from Metropolitan-Cammell, Railway Equipment Manufacturers, UK, delivered 1952-3
150 from Commonwealth Engineering, delivered 1953-6.

Length: 38'0" Width: 9'2¾" Height: 13'6 3/8" Bogie centres: 27'0"
Tare: 26¾ tons Capacity: 32 tons Bogies: Andrews
Number in service: 255

SRC

A four wheeled refrigerator van. It is similar in appearance to the MRC vans with a steel underframe and a wooden body with an arched roof and four roof ice hatches. They have 1' long ½ ton capacity ice compartments at each end. The sides are white, with roofs and undergear black. They have a 5'0" double opening door on each side.

Length: 20'0" Width: 9'3" Height:12'9 7/8" Wheelbase: 11'6"
Tare: 15 tons Capacity: 10 tons
Number in service: 1

Bogie Covered Vans

These are MRC vans that were replaced by the TRC refrigerator vans. During 1957 a program was commenced to remove the roof catwalk and ice hatches and to use the vans as general service box cars. They could still be used as refrigerator vans by the storing of ice in the car ends before loading. They were mainly repainted black although some vans retained the white sides. Commencing in 1968 some vans were rebuilt as MB vans by removing the insulation from the ends and ceiling, and fitting some vans with new Mansard roofs, the aim being to give a larger cubic capacity.

Length: 38'0" Width: 9'3" Height: 13'1¼" Bogie centres: 27'0"

MBC Tare: 30½ ~~ton~~ Capacity: 20 tons Bogies: Rivetted
Number in service: 149
A covered van with a cubic capacity of 1804 cub. ft. They have a 5'0½" x 6'6" double opening door each side.

MFC Number in service: 3
An MBC van especially equipped for the conveyance of fish from the North Coast area to Darling Harbour.

MB Tare: 25¼ tons Capacity: 25 tons Bogies: Rivetted
Number in service: 30
A rebuilt MBC van with a cubic capacity of 2253 cub. ft. They have a 5'0½" x 6'8½" double opening door

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Four Wheel Covered Vans

CV

A covered van with the standard steel underframe and wooden body. The sides and ends are of smooth panelling with external bracing. They have smooth curved roofs and have a 4'0" x 6'5" double opening door in each side. Most vans have a capacity of 12 tons, but there remain three vans in service that have older underframes and a capacity of 10 tons. The larger capacity vans were mainly constructed during 1948-53. Plate no.23

Length: 18'0" Width: 8'6" Height: 11'7¼" Wheelbase: 10'0"
Tare: 7 tons Capacity: 10-12 tons
Number in service: 34

ABV

These are CV vans that are used to carry biscuits loaded at Arnott's factory at North Strathfield. They have been internally lined with insulating Masonite panelling. The conversion of these vans commenced in 1963, and the earlier vans remained identical to the CV vans, but from 1967 some ABV vans were built using underframes from other 18' vans and new bodies were built. The newer vans are similar in appearance to the SRC refrigerator vans and have a height of 12' over the arched roof. There are also 3 vans in service with older underframes that have the capacity limited to 10 tons. Plate no.24

Number in service: 55

Powder Vans

These vans are used to carry explosives for industrial uses. Both the four wheeled and the bogie vans have a similar arrangement of a main centre compartment with a double opening door, and a small compartment with a single opening door at the end. They have a steel underframe and wooden body with a smooth curved roof, and can be identified by the word 'EXPLOSIVE' on both sides. Most four wheeled vans were built in four orders for 52 vans. The remainder are conversions using standard 18' underframes or earlier vans.

There have been five recent orders for these vans; the four wheeled vans were allocated various numbers:

12 PV from A.E. Goodwin, delivered 1951
25 PV from A.E. Goodwin, delivered 1954
11 PV from Commonwealth Engineering, delivered 1956-7
24 BPV from Railway Workshops, delivered 1959-60, numbered 20391-414
4 PV from Railway Workshops, delivered 1963.

BPV

An explosives van divided into two compartments. The main compartment is 26' long and has a 5'0" x 6'4" centre door. There is a 3' long compartment at one end with a 2'9½" door.

Length: 30'0" Width: 8'6½" Height: 11'5½" Bogie centres: 18'2¼"
Tare: 18 tons Capacity: General goods, 10 tons. Explosives, 6 tons.
Bogies: 2AA
Number in service: 23

PV

A four wheeled explosives van divided into three compartments. The centre compartment is 11' long with a 5'0" x 6'0" centre door. The end compartment at the 'A' end has a 2'7½" door, while that at the 'B' end has a 2'9½" door. There is one van with an older underframe that has a tare of 7¾ tons and a general goods capacity of 8 tons. Plate no.26

Length: 18'0" Width: 8'6" Height: 11'1½" Wheelbase 10'0"
Tare: 10 tons Capacity: General goods, 10 tons. Explosives, 6¾ tons.
Number in service: 58

Livestock Wagons

There are two types of livestock wagon in use; the single deck wagon used for cattle and horses and the two deck wagon used for sheep, goats and pigs. All wagons have steel underframes with a steel and wooden body and a corrugated steel roof. They are similar in design, with the bogie wagon being a double four wheel wagon. This is to allow standard loading and unloading facilities. The sheep wagons have two 4' sliding doors into each compartment with the doors in the centre of the lower deck and at the ends of the upper deck. The cattle wagons have a 4' outward opening door at one end with a small downward-folding section at the base of the door to form a loading ramp.

The four wheeled wagons are fitted with the standard steel underframe built by Commonwealth Engineering during 1948-53 and the bodies were built in various orders with some cattle wagon bodies being recent rebuilds in Railway Workshops.

The bogie wagons were built in two orders but are similar in dimensions and many parts are interchangeable:

100 BCW from A. Goninan, delivered 1959-60, numbered 29725-824
550 BSV from A.E. Goodwin, delivered 1959-68, numbered 29625-724 and 29825-30274.

BCW

A cattle wagon divided into two 18' compartments.
Length: 37'0" Width: 9'0" Height: 11'1¼" Bogie centres: 26'0"
Tare: 20 tons Capacity: 20 head/14 tons Bogies: Andrews
Number in service: 100

BSV

A sheep wagon divided into four 18' compartments. Photo 15
Length: 37'0" Width: 9'0" Height: 12'0 7/8" Bogie centres: 26'0"
Tare: 20¾ tons Capacity: 200 sheep/12 tons Bogies: Andrews
Number in service: 550

CW

A cattle wagon. There are a small number of CWs with higher roofs and enlarged doors. These wagons were used by circuses for the transportation of elephants and other circus animals. Plate no.25
Length: 18'0" Width: 8'6" Height: 11'8¾" Wheelbase: 10'0"
Tare: 8½ tons Capacity: 8 to 10 head/6 tons
Number in service: 338

GSV

A sheep wagon divided into two 18' compartments.
Length: 18'0" Width: 8'6" Height: 12'5 3/8" Wheelbase: 10'0"
Tare: 9¾ tons Capacity: 100 sheep/6,tons
Number in service: 8

Horse Vans

Horses can also be conveyed in special horse boxes. These are numbered in the passenger car list, but can be used in passenger or goods trains. The KKG carries six horses and groomsmen and the BKG carries twelve horses and groomsmen.

Bogie Open Wagons

G type

These wagons are of all steel construction with 4'3" high eight-panel sides and two 8'11" double opening doors each side. The sides are of pressed steel construction and the wagons have 16 bottom discharge doors in the floor.

There were 500 G wagons built by Waggonfabrik Talbot, Aachen, Germany, assembled by Clyde Engineering and delivered in 1951. They were allocated various numbers.

Many wagons have now had the floor discharge doors sealed as they have had little use in service. Also, some wagons were fitted with heavier capacity bogies. They had plain bearing Bettendorf bogies when built, but the higher capacity wagons now have roller bearing Bettendorf bogies, although some wagons have Top-hang Clasp Brake. Some of the wagons coded GP have had the side doors replaced by panelling and are used for concentrate traffic from Broken Hill and Cobar. They are unloaded by tippling about the longitudinal axis.

Length: 40'0" Width: 9'6" Height: 8'6 5/8" Bogie centres: 29'0"

G An open wagon with side doors and floor discharge doors.
Tare: 20 tons Capacity: 40 tons Bogies: Bettendorf
Number in service: 28

GCX A G wagon fitted for bogie exchange. They are mainly used to carry furnace coke to interstate destinations.
Number in service: 3

GM A G wagon with floor discharge doors sealed.
Number in service: 95

GX A GM wagon fitted for bogie exchange.
Number in service: 28

GH A G wagon, retaining the side and floor doors, fitted with heavier capacity bogies.
Tare: 20 tons Capacity: 50 tons Bogies: Bettendorf
Number in service: 31

HGM Similar to the GH wagon but with floor trap doors sealed. Plate no. 16
Number in service: 144

HGX An HGM wagon fitted for bogie exchange.
Number in service: 27

GP A G wagon with side doors sealed or replaced by panelling and the floor discharge doors sealed, fitted with heavier capacity bogies. They are used to carry concentrate from Broken Hill to Cockle Creek (Newcastle) and from Cobar to Port Kembla. Plate no. 17
Tare: 20 tons Capacity: 50 tons Bogies: Bettendorf
Number in service: 130

BD

These open wagons are of steel construction with vertical square corrugated sides and ends. They have external lashing bars for tarpaulins and have timber floors. The sides are 4' high and there is a 10' double opening door in the centre of each side.

200 wagons were built by A.E. Goodwin, delivered in 1961-4, and numbered 28175-374.

Length: 35'0" Width: 9'8¾" Height: 8'1¾" Bogie centres: 24'0"
Tare: 17 tons Capacity: 34 tons Bogies: Top-hang Clasp Brake
Number in service: 199

BDL type

These wagons are similar to the BD wagon but being longer have two 10' double opening doors each side. They also have timber panelling on the inner side of the wagon ends.

580 wagons were built in two orders:
300 from A.E. Goodwin, delivered 1963-7, numbered 28375-624 and 31611-60
280 from Commonwealth Engineering, delivered 1968-70, numbered 33401-680.

The Com-Eng wagons differed from the eariler wagons by having long tarpaulin lashing bars and were built with bogie exchange facilities fitted. Commencing in 1965 some wagons have had special cradles fitted for the conveyance of coil steel.

Length: 46'8" Width: 9'8¾" Height: 8'1¾" Bogie centres: 34'9"

BDL
Tare: 20 tons Capacity: 50 tons Bogies: Top-hang Clasp Brake
Number in service: 173

BDX
A BDL wagon fitted for bogie exchange. Plate no.18
Number in service: 378

CCL
A BDL wagon fitted with special cradles for carrying coil steel but retaining the single compartment. They have a tall folding frame for tarpaulins.
Tare: 23 tons Capacity: 49 tons Bogies: Top-hang Clasp Brake
Number in service: 11

CCX
This is a bogie exchange wagon similar to the CCL except that the body has been altered to form two separate 21' compartments with individual frames for the tarpaulins.
Number in service: 18
There was an earlier experimental car of this type, coded NTC 5065, built by A.E. Goodwin during 1965. It had two compartments, each having a semi-cylindrical steel opening roof. This car has been converted to a standard BDX.

CG

These wagons are designed for carrying concentrates from Broken Hill to Cockle Creek (Newcastle) and from Cobar to Port Kembla. Because of the high density of this material these wagons are relatively small. They are of all steel construction with external square bracing, with the sides and ends sloping outwards towards the top. Plate no.19

85 wagons were built by Superior Weld and delivered during 1968-9. They are numbered 31801-85.

Length: 33'0" Width: 9'7" Height: 7'3" Bogie centres: 22'0"
Tare: 17 tons Capacity: 55 tons Bogies: Top-hang Clasp Brake
Number in service: 85

Four Wheel Open Wagons

S type

The original S type open wagons were built between 1910 and 1914 but during the 1940's a replacement program was instituted with the ordering of 10,000 underframes and components from Commonwealth Engineering, and the bodies from Railway Workshops. They were delivered 1945-58 and were allocated various numbers.

These wagons have steel underframes with a steel and wood composite body and a wooden floor. The sides are 3' high and there is a 7', downward-folding door each side. Plate no.27

Length: 18'0" Width: 9'7" Height: 8'4½" Wheelbase: 10'0"
Tare: 8 tons Capacity: 15 tons
Number in service: 6826

SO

An S wagon fitted with removable partitions for carrying small oil drums, or other similar sized containers.

Number in service: 11

U - K type

This type of wagon is of all steel construction with 4'1½" high pressed steel sides with a 10'3" double opening door each side. The ends are of either pressed or ribbed construction. They have a wooden floor. U type wagons have floor discharge doors in addition to the side doors.

These wagons first entered service during the 1920's when the firms of Tulloch and Waddingtons supplied wagons of both the hopper U and the non-hopper K types. During the second world war approximately 150 K wagons were converted to KF flat wagons, but subsequently during 1946-8 some of these were rebuilt as open wagons.

Although some of the earlier wagons remain in service most have been withdrawn. The wagons currently in service are from orders from Waddingtons and Commonwealth Engineering delivered between 1938 and 1951.

The Waddington built wagons had pressed steel "Dreadnought" ends, and these orders were:-

600 U delivered 1938-39
400 U delivered 1941-42
1000 U delivered 1943-47

Some of these wagons were allocated various numbers but most of the wagons remaining in service are numbered within these groups:
22978-23077 (100), 23350-24099 (750), 24600-24950 (350), 25350-25599 (250)

The Com-Eng built wagons reverted to the ribbed end design and this order was for 1,000 K, delivered 1949-51 and numbered 26775-27774.

Many of the Waddington built wagons have been rebuilt with the pressed ends and most of these wagons have had the floor discharge removed.

Length: 22'0" Width: 9'0" Height: 8'4" Wheelbase: 11'6"

U

An open wagon with side doors and eight floor discharge doors.
Tare: 10¼ tons Capacity: 24 tons
Number in service: 8

CU

A U wagon permanently fitted with ridge poles and tarpaulins. The height over the ridge pole is 10'5" and they are used for carrying bulk grains with the exception of wheat.
Number in service: 24

K

An open wagon, as described above. Plate no.28
Tare: 10¼ tons Capacity: 25 tons
Number in service: 2277

TPK

These are silver painted K wagons used mainly for carrying tinplate from Port Kembla to the Sydney Metropolitan Area.
Number in service: 42

KC

A U wagon with the floor discharge doors in position but sealed out of use.
Number in service: 12

KO

A K wagon fitted with removable partitions for carrying small drums such as oil, kerosene, etc. Similar to SO.

UT

These are U and K wagons that (after 1963) had the side doors sealed or replaced by panelling and an I beam channel fitted around the gunwale. They are used mainly in the Port Kembla and Newcastle areas where unloading is by tippling. They are to be fitted with roller bearings. Plate no.29
Height: 8'7" Tare: 11 tons Capacity: 25 tons
Number in service: 244

Bogie Hopper Wagons

Steel Wagons

These hoppers are of all steel construction and are fitted with six floor discharge doors in three hoppers. They were the first vehicles built without buffers. 1700 wagons were built in four orders:

400 BCH from Commonwealth Engineering, delivered 1951-4.

400 BCH from A. Goninan, delivered 1952-4. These 800 wagons were numbered 28625-29424.

685 BCH and 65 BLH from Waggonfabrik Talbot, Aachen, Germany. These wagons were assembled by Commonwealth Engineering, delivered 1956-60, numbered 32000-32749.

150 HCH from Clyde Engineering, delivered 1960, numbered 32750-32899.

Commencing in 1953 some BCH wagons were fitted with roofs, to carry bulk grain or cement. With the introduction of the HCH wagons some earlier coal and cement wagons were fitted with heavier bogies to increase their capacity.

Length: 36'0" Width: 9'8" Height: 10'6" Bogie centres: 26'0"

BCH

A coal hopper wagon, as described above. Plate no.20

Tare: 19¼ tons Capacity: 42 tons Bogies: Bettendorf

Number in service: 846

BWH

A BCH hopper wagon with a roof and a side-mounted roof catwalk. There are six sliding loading hatches mounted along the wagon centre line. These wagons are used to carry wheat or other bulk grains.

Height: 12'2" Tare: 20¾ tons Capacity: 41 tons

Number in service: 386

BRH

A BCH hopper wagon fitted with a roof, certain wagons having a centre catwalk with three folding loading loading hatches each side. They are used to carry bulk cement.

Height: 13'3½" Tare: 20½ tons Capacity: 41 tons

Number in service: 121

HCH

A BCH hopper wagon fitted with heavier bogies to give a larger capacity.

Tare: 20 tons Capacity: 52 tons Bogies: Low-hang Clasp Brake

Number in service: 160

HRH

A BRH hopper wagon fitted with heavier bogies.

Tare: 21¾ tons Capacity: 50 tons Bogies: Low-hang Clasp Brake

Number in service: 103

LBH

These are BWH hoppers released during 1968 from wheat traffic by the aluminium wagons. They remain identical with the BWH wagons but are used exclusively for the conveyance of burnt lime from Medway Quarry (Moss Vale) to Morandoo (Port Waratah).

BLH

These wagons were built with lower sides than the BCH wagons although other details are the same. They are used mainly to carry limestone from Medway Quarry to Berrima Cement Works (near Moss Vale). They are usually operated in sets of 15 wagons over this 72 mile round trip route.

Length: 36'0" Width: 9'8" Height: 8'5½" Bogie centres: 26'0"
Tare: 18¼ tons Capacity: 43 tons Bogies: Bettendorf
Number in service: 65

PCH

This coal hopper is constructed of Aus-ten 50 steel and is similar in appearance to the curved sided CH hoppers. It was built in 1968 by Tulloch Ltd. for Australian Iron and Steel, and is on extended loan for evaluation testing. This wagon has orange sides with black undergear and is numbered 5067. Similar hopper wagons have been built by Tulloch for AIS and are in service on the Port Kembla system. PCH 5067 is used mainly between Glenlee and Rozelle.

Length: 46'6" Width: 9'9" Height: 12'0" Bogie centres: 34'6"
Tare: 21 tons Capacity: 52 tons Bogies: Low-hang Clasp Brake
Number in service: 1

Aluminium Wagons

Although 25 aluminium MLV bodies were built by Railway Workshops during 1947-8, it was not until 1964 that extensive use of this material was made in goods vehicles. These hopper wagons have a lower tare weight than the conventional steel hoppers but have a higher capacity. All aluminium hoppers are unpainted and are built to a similar design in that all wagons have curved sides with the main body of the wagon some feet shorter than the frame. The brake equipment is mounted on the wagon ends.

These wagons were built in seven orders:

150 WH from A.E. Goodwin, delivered 1965-7, numbered 30401-30550
100 CH from Tulloch Ltd., delivered 1966-7, numbered 32901-33000
1 ARH from A.E. Goodwin, delivered 1966, numbered 5066 (experimental)
150 CH from A.E. Goodwin, delivered 1967-8, numbered 33001-150
50 ARX from Commonwealth Engineering, delivered 1968-9, numbered 33301-50
118 WHX from Tulloch Ltd, delivered 1969-70, numbered 30551-30668
100 CH from Tulloch Ltd., delivered 1969-70, numbered 33151-33250

WH

A wheat hopper wagon. It has a 34' long main hopper body with curved sides and a flat roof . There is a side-mounted roof catwalk with seven loading roof hatches along the wagon centre line. Unloading is via four sloping floor hoppers.

Length: 44'0" Width: 10'0" Height: 12'6" Bogie centres: 34'6"
Tare: 15½ tons Capacity: 56 tons Bogies: Low-hang Clasp Brake
Number in service: 150

WHX

A wheat hopper fitted for bogie exchange, similar to the WH but they differ by having flat hopper doors. Plate no. 37

Tare: 16½ tons Capacity: 56 tons
Number in service: 118

CH

A coal hopper wagon with a 34' or 36' body with curved sides and an open roof. It can be unloaded by tippling or via hopper doors. The Goodwin built wagons are 44'6" long and have four sloping floor hoppers. The Tulloch built wagons are 46'6" long, the first order having four sloping hopper doors and the second order having three flat hopper doors.

Length: 44'6"/46'6" Width: 10'0" Height: 12'0" Bogie centres: 34'6"/36'6"
Tare: 17½/18 tons Capacity: 54/56 tons Bogies: Low-hang Clasp Brake
Number in service: 350

ARH

A bulk cement hopper wagon, similar in appearance to the WH hopper but with a 27' main hopper body. It has a side roof walk with four centre roof hatches. Unloading is via four flat hopper doors.

Length: 37'6" Width: 9'9" Height: 13'3¾" Bogie centres: 27'6"
Tare: 16 tons Capacity: 56 tons Bogies: Low-hang Clasp Brake
Number in service: 1

ARX

A bulk cement wagon fitted for bogie exchange. Although it has similar dimensions to the ARH it differs greatly in design. It has an "inverted teardrop" cross section with three centre roof hatches and an off-centre roof walk. Unloading is via four flat hopper doors. Plate no. 38

Number in service: 50

Four Wheel Hopper Wagons

RU type

These hopper wagons are of all steel construction with a pitched steel roof. They have four folding roof hatches, two each side. There are eight floor discharge hoppers. 651 wagons were constructed by Waddingtons in three orders:

250 wagons, delivered 1942-3, numbered 24100-24349
150 wagons, delivered 1943-4, numbered 24450-24599
250 wagons, delivered 1945-6, numbered 25100-25349

The additional wagon, numbered L422, is in use at Port Waratah for carrying sand for locomotive use. This wagon is painted red.

During 1967, some wagons were recoded for carrying limestone.

RU

A hopper wagon for bulk wheat or other bulk grain. Plate no. 30

Length: 22'0" Width: 9'0" Height: 10'5½" Wheelbase: 11'6"
Tare: 10¾ tons Capacity: 24 tons
Number in service: 584

UL

A hopper wagon for carrying ground limestone between Berrima and Botany.

Number in service: 14

LCH type

These wagons have a steel underframe with a removable body. Most bodies are wooden although there are some steel bodied LCH hoppers in service. These wagons can be unloaded by normal discharge through the floor, but are designed to be lifted off the frame and unloaded directly over the ship or stockpile.

Between 1939 and 1951 a replacement program was instituted to upgrade these wagons. During this period four orders for 690 new wagons and one order for 1500 underframes for use under existing hopper bodies were delivered. The orders were:-

50 from Railway Workshops, delivered 1939-41
40 from Tulloch, delivered 1945
100 from Railway Workshops, delivered 1948-49
500 from A. Goninan, delivered 1949-51
1500 underframes from A. Goninan, delivered 1948-50

Although some wagons were allocated various numbers, most were numbered in the following groups:-

10051-600 (550), 12451-660)(210), 13301-700 (400), 19891-20240 (350)
23212-251 (40), 25775-26274 (500), 28026-124 (100)

Conversions of these wagons have included increasing the height of the sides of the wagon to carry a larger cubic capacity of crushed coal while other wagons have had the hopper sealed watertight and covered for carrying bulk cement or mineral beach sands, e.g. rutile or zircon.

The LCH and CCH coal hoppers are used for general coal distribution throughout the state but for export coal they are used mainly in the Newcastle area. There are also approximately 12,000 privately owned coal hoppers similar to the LCH type in use, mainly in the Newcastle area although there are some remaining on the South Coast coal mines.

LCH

A coal hopper. The hopper body is 14' long x 7'10" wide x 7' high.
Length: 16'0" Width: 7'0" (frame) Height: 7'11" Wheelbase: 8'2"
Tare: 7½ tons Capacity: 16 tons
Number in service: 364 Plate no.31

CCH

An LCH hopper wagon with the hopper sides extended to 7'10" high. They are used mainly for carrying the lower density crushed coal. Plate no.32
Height: 8'9" Tare: 8½ tons Capacity: 13 tons crushed coal
Number in service: 863

SH

An LCH wagon with the interior of the hopper and the hopper door sealed with plywood lining. They are used to carry mineral beach sands.
Tare: 8¼ tons Capacity: 16 tons
Number in service: 20

CSH

An SH wagon fitted with tarpaulin covers.
Number in service: 27

RSH

An SH wagon fitted with a steel roof. Plate no.33
Number in service: 26

RH

An LCH underframe fitted with a steel enclosed-hopper body. The hopper is 14' long x 8' wide x 9' high. These wagons are used to carry bulk cement. Some RH wagons are privately owned.
Length: 16'0" Width: 7'0" (frame) Height: 10'0" Wheelbase: 8'2"
Tare: 8½ tons Capacity: 16 tons
Number in service: 39

MH

These hopper wagons have similar dimensions to the LCH wagons but are an all steel hopper wagon. They were built by Railway Workshops in two orders, 75 wagons in 1931 and 30 wagons in 1938, for use on ballast trains. The hopper is 14' long x 8'3" wide x 7' high. The hopper doors are operated by a side-mounted handwheel.
Tare: 7½ tons Capacity: 16 tons
Number in service: 10

Bogie Flat Wagons

MLE-UME type

These wagons are the standard 45' flatwagon, having a steel frame with a timber deck. The earlier LE and MLE wagons had four bolsters while the later UME and HME wagons lacked the bolsters but retained the four stanchions each side. Some wagons later had the bolsters or stanchions removed and were fitted with holding blocks for use as container wagons, or other fittings for use with special loads.

There were 500 wagons built in 5 orders. The first 75 were 40' E flat wagons that were lengthened to 45', between 1937 and 1942. They retained the various E numbers. These wagons have mostly been upgraded to MLE or UME standard or withdrawn.

The main UME-MLE wagons were from four orders:

100 MLE from Tulloch, delivered 1943, numbered 24350-24449
25 MLE from Tulloch, delivered 1947-8, numbered 25650-25674
78 MLE) from A. Goninan, delivered 1949-52, numbered 26275-26524
172 UME)
50 HME from A.E. Goodwin, delivered 1958-9, numbered 29500-29549

The first orders for these wagons had Archbar bogies fitted when built but these were replaced with the plain bearing Andrews bogies that became the standard bogie for these wagons. The HME wagons had roller bearing Andrews bogies and have a higher capacity. Bettendorf and 2BJ bogies are now in wide spread use under these wagons and some UME wagons have been upgraded to HME standard.

Length: 45'0" Width: 9'1 5/8" Height: 4'0" Bogie centres: 34'0"

LE

A flat wagon fitted with four bolsters.
Tare: 20 tons Capacity: 41 tons Bogies: Archbar
Number in service: 2

MLE

A flat wagon with four bolsters.
Tare: 20 tons Capacity: 41 tons
Number in service: 139

JME

An MLE wagon fitted with improved bogies. Plate no.39
Number in service: 87

UME

A flatwagon fitted with four stanchions. Plate no.40
Tare: 18½ tons Capacity: 41 tons
Number in service: 152

FME

A UME flatwagon fitted to carry six 7' LCL containers. Plate no.41
Tare: 19½ tons Capacity: 41 tons
Number in service: 13

CME

A UME flatwagon fitted to carry five 8' containers.
Tare: 19 tons Capacity: 41 tons
Number in service: 3

SME

A UME flatwagon fitted with loading chains for carrying semi-trailers.
Tare: 18½ tons Capacity: 41 tons
Number in service: 3

TME

A UME flatwagon fitted with special cradles for carrying pipes and tubes.
Tare: 18½ tons Capacity: 41 tons
Number in service: 15

GME

An FME flatwagon fitted to carry two 20' ISO containers.
Tare: 19½ tons Capacity: 41 tons
Number in service: 9

CP

A UME flatwagon fitted with end bulkheads. One bulkhead is fixed while the other is movable. They are used to carry "Pyneboard" from Gilmore (near Tumut) to Darling Harbour, Sydney.
Tare: 19 tons Capacity: 41 tons
Number in service: 3

HME

A flat wagon fitted with four stanchions.
Tare: 20 tons Capacity: 50 tons Bogies: Andrews
Number in service: 1

HMX

A HME wagon fitted for bogie exchange.
Number in service: 25

SMX

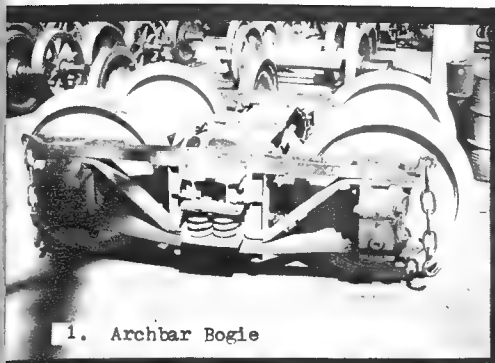
A HMX flatwagon fitted with load fixing chains for carrying semi-trailers.
Number in service: 6

TMX

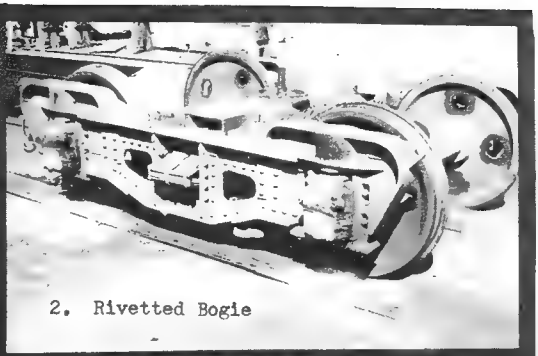
A HMX flatwagon fitted with special cradles for carrying pipes and tubes
Number in service: 5

CMX

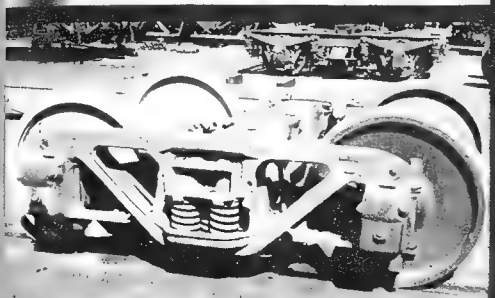
A HMX flatwagon fitted with two 20' ISO refrigerated containers. These containers are cooled by the use of liquid nitrogen or carbon dioxide, as used in the GRC refrigerator van.
Number in service: 1



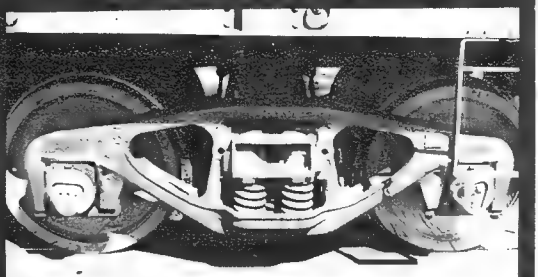
1. Archbar Bogie



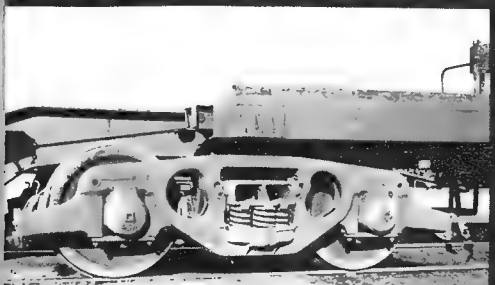
2. Rivetted Bogie



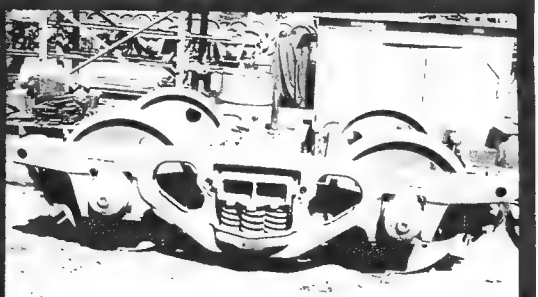
3. Andrews Bogie



4. Bettendorf Bogie

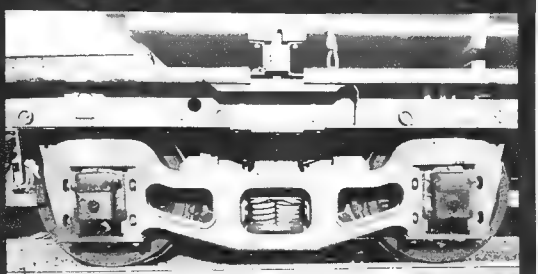


5. Low hang Clasp Brake Bogie



6. Top Hang Clasp Brake Bogie

7. 2AT Bogie



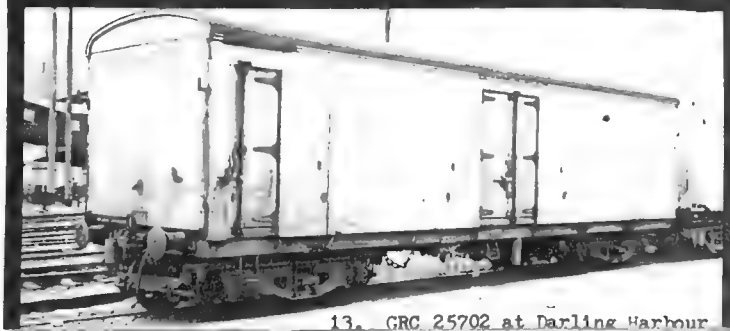
8. 2BJ Bogie

9. MLV 5985 at Darling Harbour

10. MLV 12036 at Newcastle

11. MLV 25693 at Sydney Station

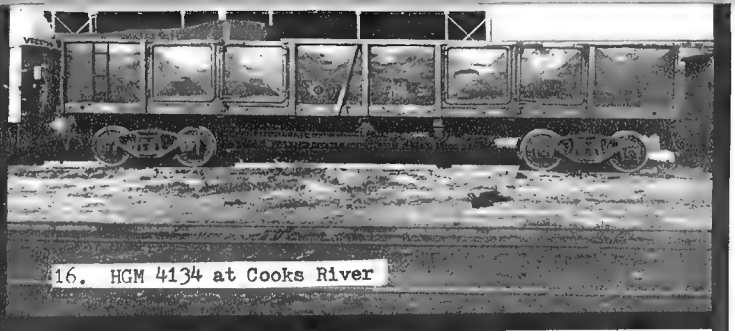
12. LLV 11307 at Darling Harbour



13. GRC 25702 at Darling Harbour

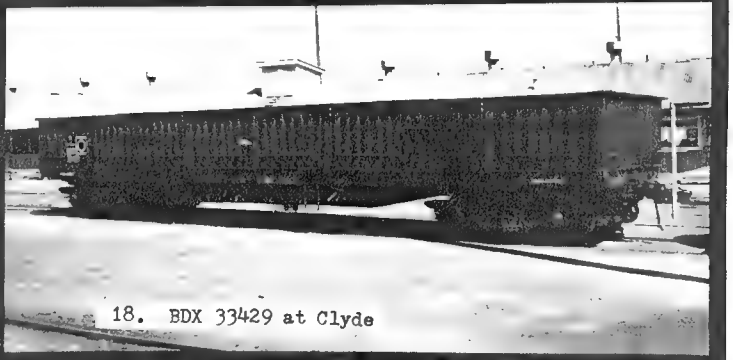
14. TRC 31110 at St Leonards

15. BSV 30040 at Mittagong

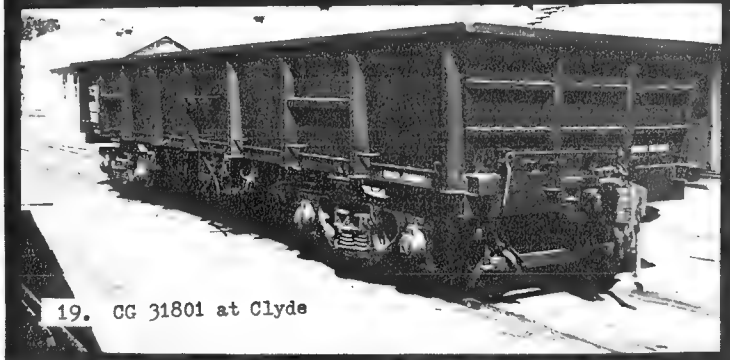


16. HGM 4134 at Cooks River

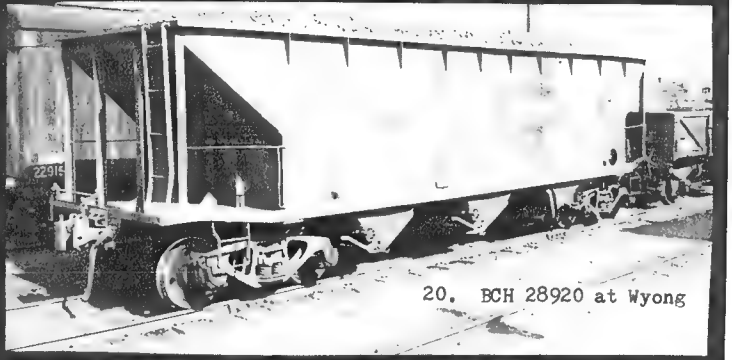
17. GP 6892 at Cooks River



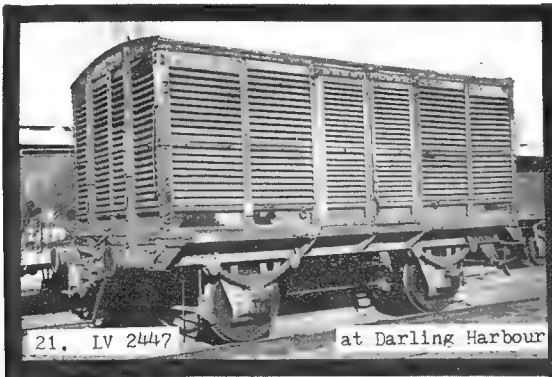
18. BDX 33429 at Clyde



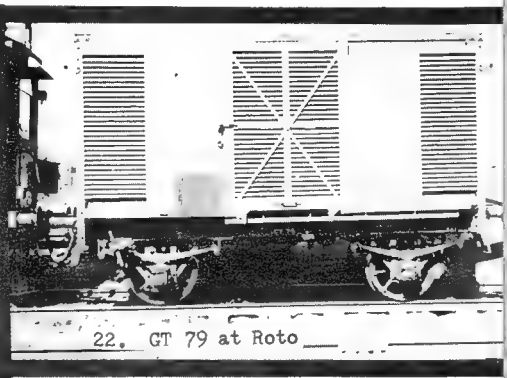
19. CG 31801 at Clyde



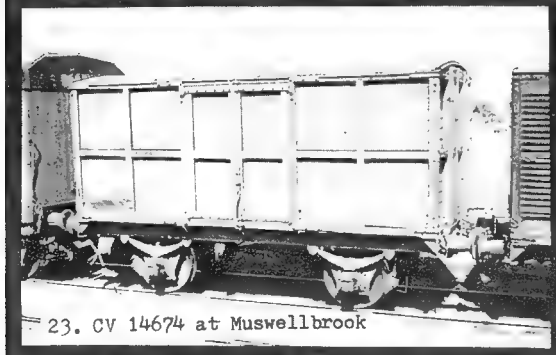
20. BCH 28920 at Wyong



21. LV 2447 at Darling Harbour

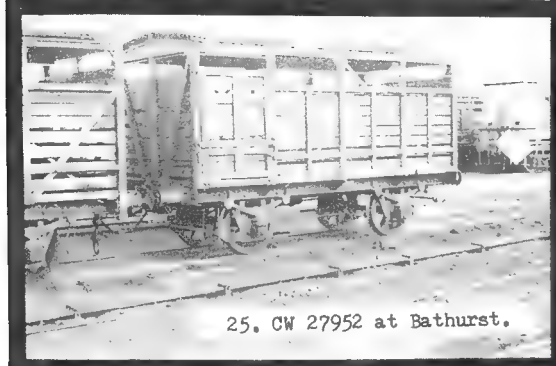


22. GT 79 at Roto



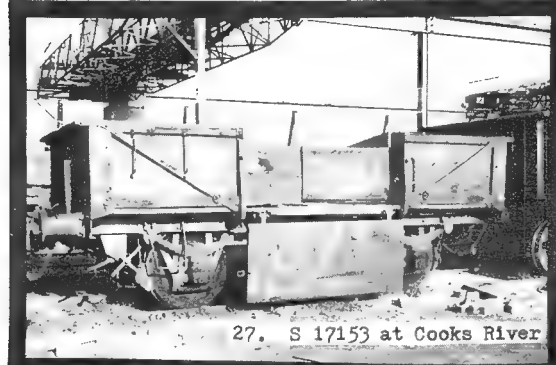
23. CV 14674 at Muswellbrook

24. ABV 20923 at North Strathfield



25. CW 27952 at Bathurst.

26. PV 665 at Rozelle

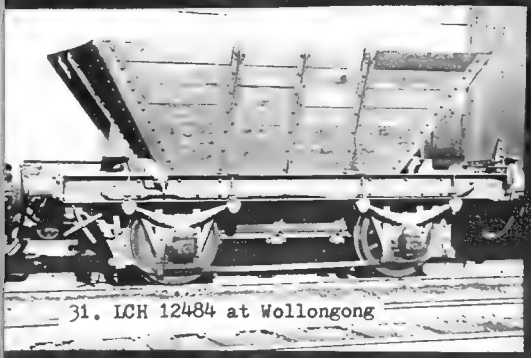


27. S 17153 at Cooks River

28. K 23844 at Darling Harb

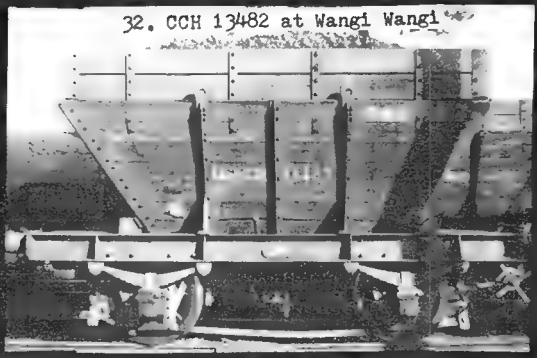
29. UF 11464 at Port Kembla

30. RU 24496 at Darling Harbour

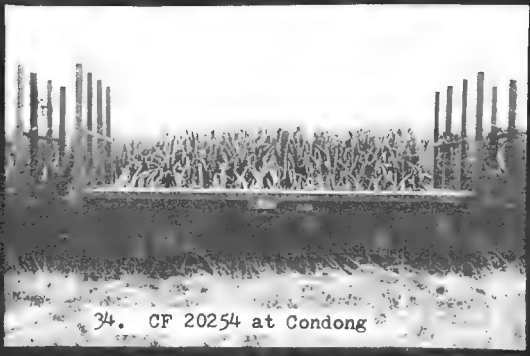


31. LCH 12484 at Wollongong

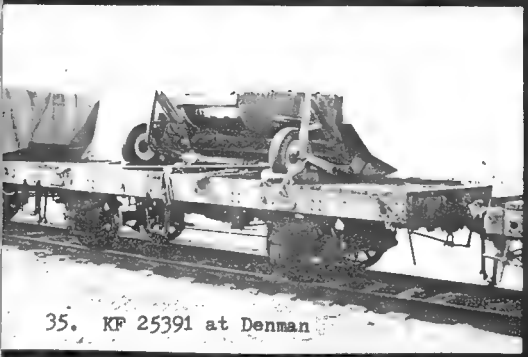
32. CCH 13482 at Wangi Wangi



33. RSH 12497 at Newcastle

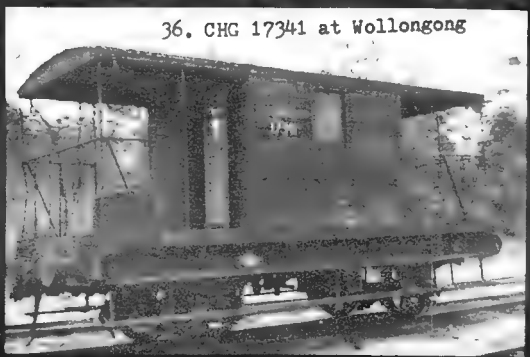


34. CF 20254 at Condong

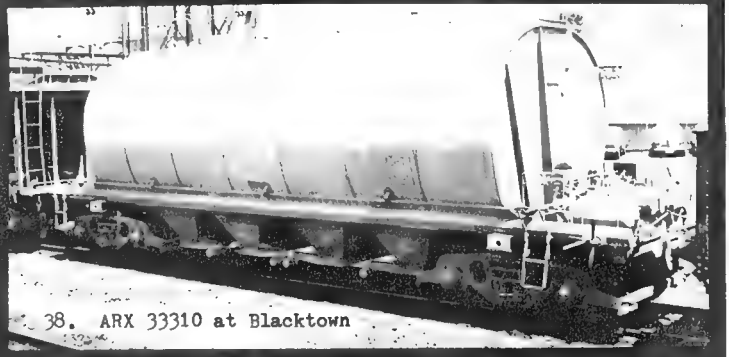


35. KF 25391 at Denman

36. CHG 17341 at Wollongong



37. WHX 30643 at Rozelle

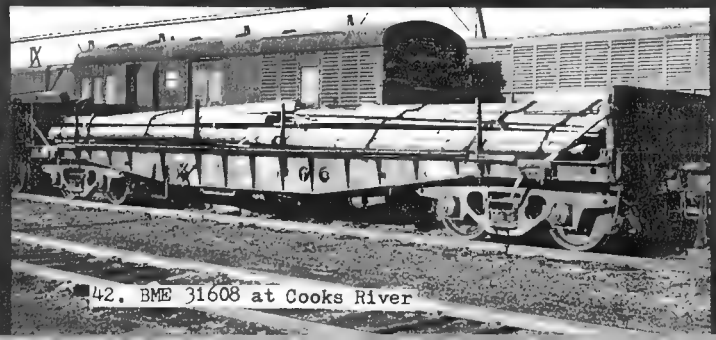


38. ARX 33310 at Blacktown

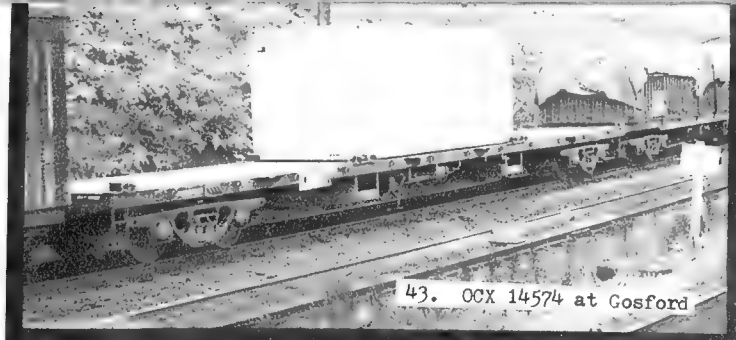
39. JME 26299 at Cooks River

40. UME 26358 at Cooks River

41. FME 26410 at Cooks River



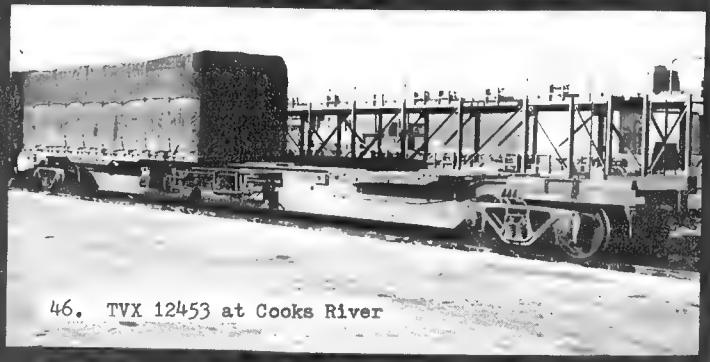
42. BME 31608 at Cooks River



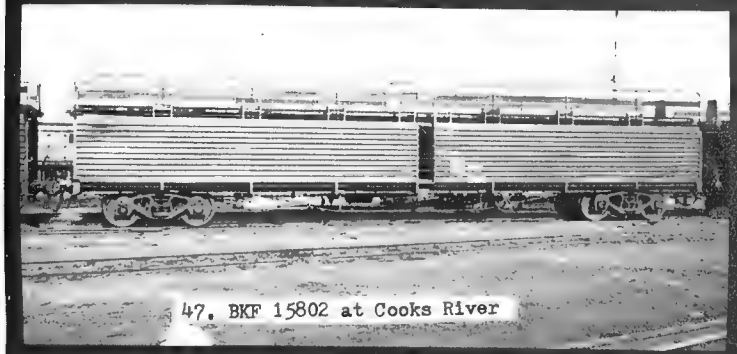
43. OCX 14574 at Gosford

44. CPX 12453 at Cooks River

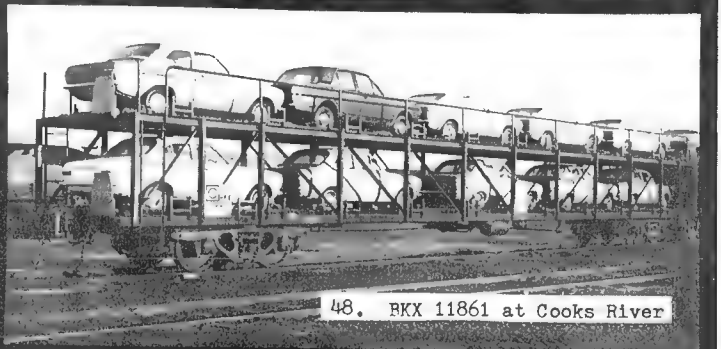
45. BCX 21766 at Port Kembla



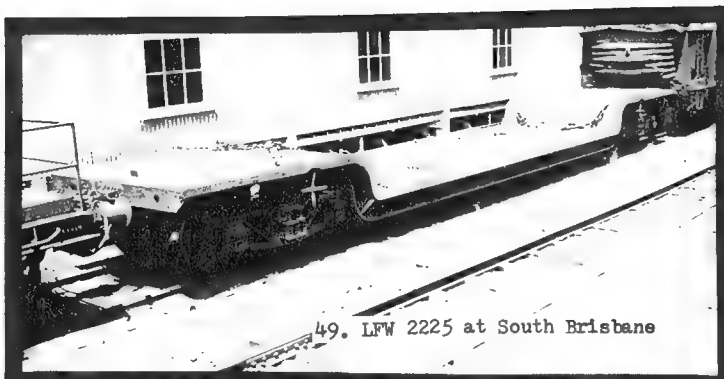
46. TVX 12453 at Cooks River



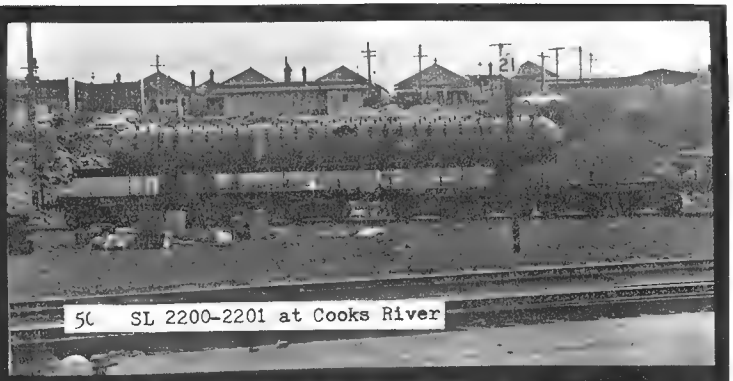
47. BKF 15802 at Cooks River



48. BKX 11861 at Cooks River



49. LFW 2225 at South Brisbane



50 SL 2200-2201 at Cooks River

51. LHG 6301 at Sydney Station

52. SHG 22533 at Rozelle

53. MHG 11654 at Cooks River

54. FHG 31737 at Cooks River

PMX

A HMX flatwagon fitted with a triangular frame for carrying 10'6" wide steel sheets.

Number in service: 13

HPX

A HMX flatwagon fitted with two 8'6" high end bulkheads. One bulkhead is fixed while the other is movable. They are used to carry Panelboard products between Mt. Gambier (South Australia) and Sydney. They retain the stanchions and can be back loaded with steel products.

BME type

These flatwagons have a fishbelly underframe with a timber deck. They are fitted with four stanchions and 3' long sections of the deck at both ends can fold up to form bulkheads.

50 wagons were built by A. Goninan and delivered during 1962, numbered 31561-31610.

Length: 45'0" Width: 9'7 5/8" Height: 4'1" Bogie centres: 34'0"
Tare 21½ tons Capacity: 51 tons Bogies: Top-hang Clasp Brake

BME

A flatwagon, as described above. Plate no.42

Number in service: 36

BEX

A BME wagon fitted for bogie exchange.

Number in service: 14

BC type

These flatwagons are of all steel construction. They have holes cut into both sides of the deck for fitting various container holding blocks, as well as for bolsters. These fittings are easily interchangeable. The wagons were originally built with open decks but most wagons have had the decking completed by welding in extra sections. All later wagons were constructed with complete decks. Some wagons have had 415V AC cabling installed with outlets on the deck for refrigerated containers. The power is obtained from EHG power brake vans.

These wagons were built in four orders:

6 from Railway Workshops, delivered 1963, numbered 21009-21014
12 from Railway Workshops, delivered 1964-5, numbered 21001-8, 21015-19
50 from Commonwealth Engineering, delivered 1966-7, numbered 21701-50
29 from A.E. Goodwin, delivered 1968-9, numbered 21751-21779

Length: 73'6" Width: 9'2½" Height: 3'11" Bogie centres: 55'3"
Tare: 27½ tons Capacity: 49½ tons (45½ tons on non-main lines)
Bogies: Low-hang Clasp Brake

BC

A flat wagon for carrying containers of all sizes from 7' to 37'6".

Number in service: 7

BCX

A BC wagon fitted for bogie exchange. Plate no.45
Number in service: 40

CBX

A flatwagon for carrying two 37'6" semi-trailer containers.
Number in service: 9

EBC

A flatwagon fitted with 415V AC cabling, to carry four 16'8" refrigerated containers. Used mainly to convey Tasmanian food products between Melbourne and Sydney.
Number in service: 6

ECB

A flatwagon fitted with 415V AC cabling, to carry two 37'6" refrigerated containers.
Number in service: 1

BBC

A flatwagon fitted with six bolsters. Used mainly to carry steel products.
Number in service: 3

BBX

A BBC wagon fitted for bogie exchange.
Number in service: 15

SBC

A flat wagon mounted on special heavier capacity bogies. Used for heavy loads, mainly steel sheeting.
Number in service: 2

STX

A flat wagon fitted with load mounting chains for carrying semi-trailers.
Number in service: 12

E type

These flat wagons are the remaining wagons fo the earlier standard type. Many wagons were rebuilt into MLV louvre vans and others were lengthened to 45' LE flat wagons. These remaining wagons are mainly fitted with semi-cylindrical tanks for conyeying water or fuel oil. These are some similar wagons used as departmental tank cars.

Length: 40'0" Width: 9'2" Height: 3'11½" Bogie Centres: 29'0"
Tare: 18¾ tons Capacity: 41 tons Bogie: Archbar

E

A flat wagon with a steel frame and a timber deck. It is fitted with four stanchions.
Number in service: 1

BE

An E wagon fitted with four bolsters, most of which have water tanks fitted.

Number in service: 7 Capacity: 41-43 tons

SRF

These are flat wagons of similar dimensions to the E wagon. They were built during 1968, using underframes of various origin. They are used to convey steel rod from BHP steelworks at Morandoo to Bullock Island (Port Waratah). They are numbered 7504 and 7511.

Number in service: 2

BWF

A flat wagon of similar dimensions to the E wagon. They were built using MLV underframes, during 1968. They are fitted with a special cradle for carrying 3'6" and 4'8½" wheel and axle sets.

Number in service: 2

Z

A bolstered flat wagon converted from the underframe of MLV or LLV louvre vans. They are used to convey steel products from the AI&S steel works to the wharves at Port Kembla for shipment.

Number in service: 12

RDF

These are LHG underframes that were converted, during 1968, to flatwagons. They have 5'6" high removable bulkheads at each end and are used to convey roof decking material or other similar light and lengthy loads. They are numbered 11611-2.

Length: 28''¾" Width:8'1" Height: 40'01" Bogie centres: 35'0"
Tare: 15½ tons Capacity: 25 tons Bogie: 2BK
Number in service: 2

TE

These are fish belly underframe flatwagons. Six wagons were built by Railway Workshops during 1952. They were alocated various numbers and are owned by the Department of the Army. They have special blocks and chains for carring Army Tanks or other military equipement.

Length: 30'0". Width: 9'6" Height: 4'1". Bogie centres: 19'0".
Tare: 19 tons. Capacity: 55 tons. Bogies: Bettendorf.
Number in service: 6.

Four Wheel Flat Wagons

KF type

A flat wagon built using the underframes of U and K wagons. 12 KF wagons built with transom underframes are limited to 20 tons capacity. The older KF wagons were converted during the second war for military purposes but some were later rebuilt into K wagons. Plate no.35

Length: 22"0" Width: 9'0" Height: 3'11½". Wheelbase: 11'6"
Tare: 8½ tons Capacity: 26 tons
Number in service: 128

Y

These are KF wagons used by AI&S for short distance haulage in the Port Kembla area. They can be used as trailer wagons only, for long loads betweem Port Kembla and Sydney.

Number in service: 3

KWF

A KF wagon fitted with a special cradle for conveying wheel and axle sets There are similar wagons in the departmental stock.

Number in service: 2

PTW

A KF wagon fitted with small V shaped cement tanks for pneumatic discharge. Two wagons are leased to the Colonial Sugar Refining Co.

Number in service: 3

BF type

These are 18' standard underframes from various vans that were converted into flat wagons.

Length: 18'0" Width: 9'0" Height: 4'0" Wheelbase: 10'0"
Tare: 8¼ tons Capacity: 15 tons
Number in service: 12

SWF

A BF flat wagon converted from S wagon underframes.They are used to carry wheel and axle sets and are similar to the KWF.

Number in service: 5

Special Purpose Wagons

These wagons are designed specifically for their loads and in general cannot be used for other loadings.

Sugar Cane

The sugar cane wagons are used exclusively on the Murwillumbah line between Crabbes Creek and Condong Sugar Mill.

BCT A bogie sugar cane wagon with four 6' high end stanchions and 3 side stanchions.

Length: 32'0" Width:8'9" Height: 4'1" Bogie centres: 21'0"
Tare: 11½ tons Capacity: 15 tons Bogie: Archbar
Number in service: 4

CT

A four wheel sugar cane wagon. They were built using the frames of D wagons and have four 6' high end stanchions and two stanchions each side.

Length: 16'0" Width: 8'9" Height: 4'1" Wheelbase: 8'0"
Tare: 5¾ tons Capacity: 15 tons
Number in service: 14

LCT

A four wheel sugar cane wagon similar in appearance to the CT wagons but built using the underframes of KY carriage trucks.

Lenght: 22'10" Width: 8'9" Height: 4'0" Wheelbase: 12'0"
Tare: 5½ tons Capacity: 8 tons
Number in service: 2

CF

A four wheel sugar cane wagon. They are similar to the CT wagons but were built during 1967, using 18' standard steel underframes, similar to the BF flat wagons. They have 18' high end stanchions. Plate no. 34

Length: 18'0" Width:8'8¾" Height: 4'0" Wheelbase: 10'0"
Tare: 8¾ tons Capacity: 15 tons
Number in service: 21

SCT

This is a CF wagon converted to a prototype side discharge sugar cane wagon.

Number in service: 1

Flexivans

These wagons are used to convey specially fitted semi-trailer bodies. They have hydraulic turntables and the van body can be rotated so that the trailing wheels can be slid into place.The prime mover couples to the front pf the van. Although there are various types of van bodies e.g. covered vans, refrigerated vans, open vans, because of the need for specially fitted semi-trailers this type of operation is limited to Brisbane-Sydney-Melbourne-Adelaide. The Flexivans aretrans-shipped between road and rail in Sydney at the Cooks River goods yard. The Victorian Railways operate a similar service between Melbourne and Albury-Mildura using FVF single van wagons.

The Flexivan wagons were originally intended to be joint stock wagons and were numbered in VR sequence from 1. The wagons taken over by NSWR were renumbered in the 12,400 series. The wagons in service are numbered 12401-10, 16-21, 33-59.

They were built in 5 orders.
15 TVF From Victorian Railways Workshops, delivered 1962-3. Numbered 1-15.
10 TVF from A.E. Goodwin,delivered 1964. Numbered 16-25.
10 TVX from VR Workshops, delivered 1965.Numbered 26-35 (12433-35)
16 TVX from Clyde Engineering, delivered 1966-7. Numbered 12436-51.
8 TVX from Clyde Engineering, delivered 1970. Numbered 12452-9.

Length: 73'3" Width: 8'0" Height: 3'10" Bogie Centres: 55'3"
Tare: 24 tons Capacity: 46 tons Bogie: Low Hang Clasp brake.

TVF

A twin Flexivan wagon as described above. Plate no.46
Number in service: 10

TVX

A TVF wagon fitted for bogie exchange.
Number in service: 33

I.S.O. Intermodal Containers

These flat wagons are designed to convey overseas containers. In New South Wales the containers are offloaded at the Balmain Container Terminal and moved to the Leightonfield or Chullora depots where they are sorted for distribution throughout the state. The SCE wagons are intended mainly for the short haul from Balmain. The OCX wagons have a continous deck and because of the lack of facilities at most locations to lift containers the OCX wagons are usually loaded with a container at both ends with the doors facing inwards. They can therefore be loaded by forklift trucks on the wagon.

SCE These container wagons were built using the frames and bogies of Standard Goods (2-8-0) steam locomotive tenders. They can carry two 20' or five 8' containers with or without refrigeration units. The 40 wagons were converted by Railway Workshops during 1968-9.They are numbered 14501-40.
Length: 45'0" Width: 8'0½" Height: 3'10" Bogie Centres: 34'0"
Tare: 22 tons Capacity: 51 tons Bogie: Pennsylvania
Number in service: 40

OCX

These container wagons were built by Tulloch Ltd during 1969. They are numbered 14551-80. They can carry either three 20' dry containers or two 20' refrigerated containers. In normal service they mainly carry two containers,
Length: 63'0" Width 8'3" Height: 3'10" Bogie centres: 34'0"
Tare 21 tons Capacity: 52 tons Bogie: Top hang clasp brake
Number in service: 30 Plate no.43

CKF

These are LF four wheel flat wagons fitted with container fixing locks to carry one 20' I.S.O. container.
Length: 22'0" Width: 9'0" Heught: 3'11½" Wheelbase 11'6"
Tare: 8½ tons Capacity: 26 tons
Number in service: 3

Motor Car Wagons

These wagons have two decks with wheel guides and folding end ramps for driving motor cars along a line of wagons. This form of loading was introduced during the late 1950's when movement of cars by rail was expanded. Motor car bodies had been previously carried by rail by were unloaded by crane.

BKR

These wagons are designed for carrying motor car bodies. They were converted from various early steel underframe passenger cars and BKO single deck motor car wagons. The conversions were mainly carried out during the late 1940's. These wagons vary greatly in body dimensions. All wagons have a 45' long by 5' high open frame for carrying 6-7 motor car bodies.

Length: 45'7", 48'10", 50'0", 52'4" Width: 8'4", 8'4", 8'2", 8'4"
Height: 8'11½", Tare: 18¾ tons Caracity: 5 tons Bogie: 2AA
Number in service: 7

BKC

A two deck motor car wagon for carrying 6-8 bodies or 4-8 completed cars cars, These wagons were built during 1958 using the underframe and bogies of LFX and BX side door cars. They have an open frame and are designed to carry completed motor cars, loaded by driving on at the end.

Length: 48'10", 50'0" Width: 9'8 7/8". Height: 8'10"
Bogie centres: 38'0", 39'0" Bogie: 2AA
Tare: 20¼ tons Capacity: 10 tons
Number in service: 15

BKF

A two deck motor car wagon to carry 4-8 completed cars. These wagons were built using underframes from various passenger cars, as with the BKC. They are numbered 15788-802. During 1963 they were rebuilt with enclosed lower decks and a side frame for the upper decks. Plate no.47

Length: 48'10" 50'0" Width: 9'8 7/8" Height: 8'10"
Tare: 17¾ tons Capacity: 10 tons Bogie: Bettendorf
Number in service; 15

BKX

A two deck motor car wagon to carry 8-10 cars. These longer car carriers were built in three orders:

38 from Commonwealth Engineering, delivered 1963-5.Numbered 11851-60, 11877-904
20 from Commonwealth Engineering, delivered 1966-7. Numbered 11905-24
18 from Superior Weld, delivered 1970. Numbered 11861-76, 11925-6

Wagons of the first order had enclosed lower decks but all later wagons had an open frame on the lower deck. Plate no.48

Length: 73'3" Width: 9'7" Height: 11'6¾" Bogie centres: 55'0"
Tare: 20 tons Capacity: 10 tons
Number in service: 76

Pyneboard

These Pyneboard flat wagons were built using the lengthened underframes of LLV and HLX louvre vans. They are a flat wagon with 7' high end bulkheads. The first wagon had two fixed bulkheads giving a load space of 50'. Later wagons had one fixed and one movable bulkhead giving a load space adjustable between 46'11" and 49'8". Plate no.44

CPX

Length: 58'0". Width: 8'2¾" Height: 4'0" Bogie centres: 47'0"
Tare: 24 tons Capacity: 49 tons
Number in service: 3

Well Wagons

These wagons have a depressed centre section and are designed to convey higher loads that would be out of gauge on conventional flat wagons. These wagons are limited to 40 m.p.h.

WW

A well wagon with a well section 34' long and a capacity of 40 tons over the bogies or 20 tons distributed in the well or 8 tons in the centre of the well. These wagons were built by Railway Workshops and Ritchie Brothers between 1908 and 1912. They were allocated various numbers.

Length: 56'6" Width: 7'9" Height: 4'3¼" Bogie Centres: 46'6"
Tare: 21½ tons Capacity: 40 tons Bogie: Archbar
Number in sevice: 2

LFW

A well wagon with a well section 24'10" long and a capacity of 37 tons over the bogies or 35 tons distributed in the well or 17 tons in the centre of the well. These four wagons were built by Railway Workshops between 1941 and 1942. They are numbered 1161, 2225, 2716, 5116 Plate no.49

Length: 46'6". Width: 9'0" Height: 4'9 1/8" Bogie centres: 35'0"
Tare: 25½ tons Capacity: 37 tons Bogie: Achbar
Number in service: 4

LLW

A well wagon with the well cection 25' long and a capacity of 50 tons over the bogies or 46 tons distributed over 12' in the well. These three wagons were built by Railway Workshops during 1953.

Length: 46'0" Width: 9'0" Height: 3'11¼" Bogie centres: 35'0"
Tare: 25½ tons Capacity: 50 tons Bogie: Bettendorf
Number in service: 3

Special Load Wagons

These wagons are designed to convey loads that would be out of gauge in length, width, and height on normal wagons or have too heavy an axle load. These wagons normally operate as special trains limited to 40 m.p.h. Accompanying Railway officers travel in a specially fitted brake van, normally an SHG (W37) or L550 (Laboratory Test Car)

SL

These two wagons were built by Railway Workshops during 1950. They are numbered 2200-1. They have four bogies with the body only full width for 27' at the centre of the wagon with V shaped ends. They have adjuctable bolsters for conveying long loads around corners. When conveying long loads KF or UME wagons are marshalled between the SL wagons but do not take any load.

Length: 38'0" Width: 9'0" Height: 4'3" Bogie centres: 9'0"(18'0")
Tare: 31 tons Capacity: 118 tons Bogie: Bettendorf (4)
Number in service: 2 Plate no.50

TW

These three wagons consist of two multibogied units with a load carrying beam between them. The beams are either a Stator support or a wide well beam.

TW 440

This wagon was built by Railway Workshops during 1948. Each unit is 29' long with two bogies at 9' centres.

Length: 65'6" Width: 9'8" Height: 7'4¾" Bogie centres: 45'6"
Tare: 46 tons Capacity: 105 tons Bogie: Bettendorf (4)

TW 530

This wagon was built by Railway Workshops during 1950. Each unit is 20' long with two bogies at 9' centres.

Length: 70'0" Width: 9'9" Height: 7'7" Bogie unit centres: 50'0"
Tare: 50 tons Capacity: 120 tons Bogie: Bettendorf (4)

TW 600

This wagon was built by A.E.Goodwin during 1961. Each unit is 25' long with three bogies at 9' centres.

Length: 90'0" Width: 11'9" Height: 9'1" Bogie unit centres: 61'10"
Tare: 87½ tons Capacity 180 tons Bogie: Bettendorf (6)

Bogie Brake Vans

LHG

These brake vans were built between 1910 and 1927 by Railway Workshops and Clyde Engineering. They have wooden bodies on steel underframes and were allocated various numbers. They were the standard brake van until the introduction of the PHG and MHG vans. The LHG van bodies are now being scrapped and parts of the underframes are being used for CHG brake vans.

They have a 6'5" side door passenger compartment at one end with a toilet attached to this compartment. The remainder of the van is a 42' long general goods compartment with double sliding doors. At the far end of this compartment is the guards area with side lookouts.

Length: 49'3". Width: 8'6". Height: 12'5½". Bogie centres: 36'0".
Tare: 25½ tons. Capacity: 12 tons. - 8 pass. Bogies: 2BK.
Number in service: 58. Plate no.51

SHG type

These 75 brake vans were built during 1940 using shortened underframes from LHG vans. They were numbered 22541-615 and have wooden bodies on steel underframes. They were used on stock trains beacause of the larger passenger space for drovers, but are now used mainly on local goods trains in the Sydney area. They are limited to 40 MPH.

They have two 6'5" passenger compartments with a 3'3" double toilet compartment between them. The remainder of the van is a 13'6" general goods compartment with a slidding door. The guards area and side lookouts are in the centre of the van. SHG 22560 (W37) is fitted with sleeping accommodation for use on special load trains and has diagonal yellow stripes painted om tne end of the van.

Length: 30'0". Width: 8'6". Height: 12'4 1/8". Bogie centres: 18'6".
Tare: 16¾ tons. Capacity: 5 tons - 16 pass. Bogies: Outside Equalised.
Number in service: 14 Plate no.52

BHG

A SHG brake van fitted with improved bogies to permit express operation. They have had a door cut in between the guards compartment and the passenger Compartment.

Capacity: 5 tons 15 passengers Bogie: 2AE
Number in service: 26

PHG

These brake vans were built by Ritchie Brothers between 1937 and 1953. They have wooden bodies with steel underframes and were mainly allocated various numbers. They are now being painted red with yellow lining and lettering.

They have an 11'5" louvred perishables compartment, with a double opening door, at one end. The centre of the van has an 11'2" general goods compartment with opening doors and side lookouts. At the end of the van is a 6'6" Passenger compartment with a toilet attached. The PHG vans are now being improved by cutting a door from the guards compartmnet into the passenger compart-

ment, reducing this compartment to 5 passengers, and sealing the outside doors in the guards compartment to reduce draughts. Many vans are being rebuilt to GHG vans. vans

Length: 35'6". Width: 8'6". Height: 12'5½". Bogie centres: 24'0".
Tare: 20 tons. Capacity: 8 tons - 7 pass. Bogies: 2AT.
Number in service: 135.

MHG type

These 200 brake vans of all steel construction were built by Metropolitan Cammel, Birmingham UK, and were assembled in Australia by Clyde Engineering. They were delivered 1951-3 and were allocated various numbers in the 11-12,000's. They are now being painted red with yellow lining and lettering.

They are of a similar arrangement to the PHG vans with a 12' perishables compartment, a 14'6" general goods compartment and a 7' guards compartnent. This compartment has outside doors and lookouts and there is a 6'6" passenger compartment with a toilet attached. These vans are now being modified similarly to the PHG vans by sealing the doors in the guards compartment and allowing him access to the passenger compartment and toilet.

Length: 38'0". Width: 8'6". Height: 12'6". Bogie centres: 27'0".
Tare: 20¾ tons. Capacity: 9 tons - 7 pass. Bogies: 2AT.
Number in service: 195. Plate no.53

EHG

A modified MHG van with a General Motors 6/71 75 KW diesel alternator set mounted in the former perishable compartment. EHG 11567 and 11643 are painted silver and used with EBC and ECB wired flat wagons for refrigerated containers. 11800 os painted yellow for use with the DCC Dental Clinic cars and 11694 is painted red with yellow lining for use on the winter weekend only Sydney - Cooma 'Snow Express'. This train has 'E' type electrically heated cars. The EHG vans can be interchanged as required.

Tare: 26 tons Capacity: 3 tons
Number in service: 4

FHG type

These steel brake vans were built as 100 NHG brake vans by Commonwealth Engineering during 1965-7 and were numbered 31701-800. They had modifications carried out involving the position of the LP Gas fittings and were recoded FHG. Twelve vans were converted to IHG vans for use in South Australia.

They have a 15'4" general goods compartment, with a sliding door, at one end and a 15'4" louvred perishables compartment at the other end. The centre of the van has a 9'4" guards compartment with a toilet and roof periscope fitted.

Length: 40')". Width: 9'2¾". Height: 14'0". Bogie centres: 28'0".
Tare: 23 tons. Capacity: 6 tons. Bogies: 2AT.
Number in service: 87. Plate no.54

IHG

These are FHG brake vans renumbered 31689-700. They have been fitted with brackets for South Australian Railways oil lamps and other slight modifications for operation on the S.A.R. standard gauge line. They are most easily recognised by the lack of buffers.

Number in service: 12

GHG

These steel framed plywood bodied brake vans have been built, by Railway Workshops, using parts of the underframes of LHG and PHG vans. This program is continuing as Workshop facilities permit. The rebuilt vans are numbered 30901 onwards.

They have a similar internal arrangement to the FHG, with a 13'3" general goods and perishables compartment at the vans ends. The centre of th the van has a 9'6" guards compartment.

Length: 36'0". Width: 8'6". Height: 12'5½". Bogie centres: 24'0".
Tare: 23$\frac{3}{11}$ tons. Capacity: 6 tons. Bogies: 2AT.
Number in service: 120.

JHG

These brake vans are similar in construction to the GHG vans but have a different body design. They were built by Railway Workshops during 1969 and are numbered 34001-2.

They have a 5'0" end platform at both ends. The interior of the van has a 8'7½" guards area with a toilet compartment, a 3'10" side entrance vestibule, a 6'6" main guards area and the remainder of the van is a 9'6" general goods area. This has a door onto the end platform for loading. 34001 has a roller door and 34002 has sliding doors.

Length: 36'0". Width: 9'4½". Height: 11'9" Bogie centres: 24'0"
Tare: 20 tons Capacity: 3 tons Bogies: 2AT
Number in service: 2

Four Wheel Brake Vans

HG

A brake van with a 4' wide side door passenger compartment. The remainder of the van is a 16' general goods compartment with a guard's area with side lookouts at the van end. The two remaining vans are in use on the Yass line and the Moorebank (Liverpool) line.

Length: 21'2" Width: 9'4½" Height: 11'9" Wheelbase: 12'0"
Tare: 10$\frac{1}{4}$ tons Capacity: 4 tons 5 passengers
Number in service: 2

CHG

An end platform brake van containing a 9' long single guard's room in the centre. They are used exclusively on coal trains in the Newcastle area. Some vans are permanently coupled in pairs to give greater braking power as most of the coal trains are worked withnprivately owned non-air braked four wheel hoppers. Plate no.36

Length: 22'0" Width: 9'0" Height: 11'8" Wheelbase: 1186"
Tare: 19 tons Number in service: 91

INTERSTATE OPERATION

Australia has had a long history of breaks of gauge between Railways and this has cause little wagon interchange. Where identical gauges have met widespread intermixing of rolling stock has occurred. This has mainly been between the 5'3" gauge Victorian and South Australian systems and before 1956, the 3'6" gauge Commonwealth and South Australian systems.

The introduction of bogie exchange in the early 1960's led to NSWR exchanging wagons with the broad gauge railways. Bogie exchange plants were built at Dynon, Melbourne and Wodonga, Albury Victoria; and later at Port Pirie and Peterbrough South Australia. The opening of the standard gauge East - West line in 1970 has enabled full interchange between South Australian, Commonwealth and New South Wales railways.

NSWR wagons have operated into Brisbane since the direct standard gauge line was opened in 1931.

NSWR wagons permitted into Queensland and Victoria

Most bogie wagons permitted to run at fast goods speed or attached to express passenger trains can operate into Queensland and Victoria. The exceptions are older wagons which are limited to 40 m.p.h. Four wheel stock is not permitted interstate except under special circumstances.

NSWR wagons permitted into South Australia and Western Australia.

Louvre vans	GLV	GLX	HLX	JLX	TLV(45 ton)			TLX
Livestock wagons	BCW	BSV						
Open wagons	BD	BDL	BDX	CCL	CCX	CG	GCX	GH
	GP	GX	HGM	HGX				
Hopper wagons	ARH	ARX	CH	HCH	HRH	PCH	WH	WHX
Flat wagons	BBC	BBX	BC	BCX	BEX	BME	CB	CBX
	CMX	CPX	EBC	ECB	HME	HMX	HPX	OCX
	PMX	SBC	SMX	STX	TMX	TVF	TVX	
Motor car wagons	BKX							

N.S.W.R. special load wagons can operate on standard gauge interstate lines.

BRAKE VANS

N.S.W.R. supplies the brake vans for the through Victorian standzrd gauge line. There are some converted 5'3" gauge four wheel vans for maintenance trains. The NSWR brake vans mainly used on goods trains are FHG GHG and MHG types.

On the South Australian standard gauge mainly IHG and South Australian Railways 8300 brake vans are used. These vans can only be used east of Port Pirie because Commonwealth Railways require crew sleeping brake vans for relief crews who are carried throughout the trip on trains. The CR brake vans are normally not used on SAR tracks.

Victorian Railways

The Victorian Railways extend throughout the greater part of the state with routes extending to Balranald, Deniliquin, and Oaklands in southern New South Wales. There are also three connections with the South Australian Railways at Mount Gambier, Serviceton, and Pinnaroo. The connections with the South Australian Railways are through yards, the connection with the N.S.W.R. at Albury, Tocumwal, and Oaklands are breaks of gauge.

The V.R. rolling stock has the coding system identification but each code is numbered from 1. The main colour scheme for goods stock is red with yellow lining and lettering. The undergear is black but bogie frames and couplers are red. Wheat hopper wagons have different colour schemes; aluminium wagons are unpainted with black lettering and underframe, steel wagons are yellow with black lettering and undergear.

V.R. four wheel and plain bearing bogie stock are widely used over S.A.R. 5'3" gauge lines in South Australia, but only roller bearing stock is permitted on the standard gauge system. There are some vans converted to 4'8½" gauge for use on Sydney-Melbourne services.

V.R. Rolling Stock Permitted Into N.S.W.

Louvre vans

VF A louvre van with either one or two sliding doors each side.
Length: 36'0" Tare: 19 tons Capacity: 35 tons

VHX A semi-louvred van with a centre double sliding door.
Length: 52'2" Tare: 24 tons Capacity: 50 tons

VLX A semi-louvred van with a centre double door.
Length: 40'4" Tare: 21 tons Capacity: 40 tons

VP A louvred van with two sliding doors each side, used mainly on passenger trains.
Length: 39'2" Tare: 25 tons Capacity: 35 tons

Covered vans

BLX A covered van with a centre sliding door,
Length: 40'4" Tare: 21 tons Capacity: 40 tons

BMF A covered van with a centre sliding door.
Length: 40'4" Tare: 20 tons Capacity: 35 tons

BMX A covered van with two sliding doors each side.
Length: 39'2" Tare: 20 tons Capacity: 35 tons

Open wagons

EX A smooth sided open wagon with two double opening doors each side.
Length: 43'0" Tare: 19 tons Capacity: 44 tons

ELX A square vertical corrugated sided open wagon with two double doors each side.
Length: 46'3" Tare: 21 tons Capacity: 50 tons

ESX An open wagon with most of the sides removed used to convey steel sheeting.
Length: 46'0" Tare: 21 tons Capacity: 50 tons

Hopper wagons

GJX A curved-sided wheat hopper. There are two types, aluminium or steel.
Length: 46'0" Tare: 16 or 20 tons Capacity 57 or 53 tons

JX A triple bunker pneumatic discharge bulk cement hopper wagon.
Length: 43'6" Tare: 25 tons Capacity: 50 tons

FX Similar to JX used to carry bulk flour.
Length: 43'6" Tare: 25 tons Capacity: 44 tons

Flat wagons

SBX A flat wagon fitted with end bulkheads used to carry plaster board.
Length: 40'4" Tare: 18 tons Capacity: 44 tons

SFX An end bulkhead flat wagon with provision for fitting either container holding blocks or bolsters.
Length: 61'2" Tare: 26 tons Capacity: 49 tons

SKX A flat wagon with provision for fitting either container holding blocks or bolsters.
Length: 75'0" Tare: 25 tons Capacity: 50 tons

SCX A flat wagon fitted with cradles for carrying ten cable drums.
Length: 43'0" Tare: 20 tons Capacity: 43 tons.

CSX
A flat wagon fitted with cradles for carrying coil steel.
Length: 37'6" Tare: 22 tons Capacity: 52 tons

SLX
A flat wagon for carrying coil steel.
Length: 46'0" Tare: 22 tons Capacity: 50 tons

QCX
A flat wagon for carrying six 7' LCL containers.
Length: 45' 0" Tare: 17 tons Capacity: 44 tons

FQX
A flat wagon for carrying three 20' ISO containers.
Length: 63'0" Tare: 21 tons Capacity: 52 tons

TVX
A twin flexivan wagon.
Length: 73'3" Tare: 24 tons Capacity: 46 tons

MOTOR CAR WAGONS

AX

A two-deck motor-car carrier, to carry 6 to 8 cars.
Length: 56'0" Tare: 20 tons Capacity: 10 tons

ALX

A two-deck car carrier, to carry 8 to 12 cars.
Length: 73'0" Tare: 21 tons Capacity: 15 tons

MLX

A car carrier to convey completed cars on the lower deck and car bodies on the upper deck.
Length: 73'0" Tare: 20 tons Capacity: 15 tons

Commonwealth Railways

Commonwealth Railways operate three systems. The standard gauge Port Pirie - Kalgoorlie-- Marree and the narrow gauge Marree - Alice Springs and Darwin - Larrimah. The goods rollingstock is numbered in two systems, standard and narrow gauge. Both systems are in alphabetical chronological order, numbered from 1. The narrow gauge wagons are prefixed by 'N'.

The CR colour scheme is maroon with yellow lettering and black undergear and bogies.

CR rollingstock permitted into NSW.

Louvre vans

LCX A louvre van with two sliding doors.
Length: 45'0" Tare: 21 tons Capacity: 40 tons

LDX A louvre van with two sliding doors.
Length: 45'0" Tare: 22 tons Capacity: 40 tons

LEX A louvre van with two sliding doors.
Length: 75'0" Tare: Capacity:

Covered Vans

VC - VCX A covered van with two sliding doors.
Length: 45'0" Tare: 21 tons Capacity: 40 tons

VD A covered van with two sliding doors.
Length: 45'0" Tare: 22 tons Capacity: 40 tons

VEX A covered van with two sliding doors.
Length: 75'0" Tare: 31 tons Capacity: 43 tons

Livestock wagons

CC — A cattle wagon.
Length: 72'0" Tare: 28 tons Capacity: 36 head

CD — A cattle wagon.
Length: 44'0" Tare: 20 tons Capacity: 24 head

SB — A sheep wagon.
Length: 36'0" Tare: 20 tons Capacity: 200 sheep

Open wagons

GB - GBX — A smooth sided open wagon, two double-opening doors.
Length: 44'0" Tare: 20 tons Capacity: 50 tons

GD — An open wagon.
Length: 44'0" Tare: 21 tons Capacity: 45 tons

GH — A GB open wagon, used only to carry coal.
Length: 44'0" Tare: 20 tons Capacity: 45 tons

GMX — A smooth sided, open wagon with two double doors.
Length: 75'0" Tare: 20 tons Capacity: 45 tons

GOX — An open wagon with vertical square corrugations on the side and end panels. Two double doors are fitted each side.
Length: 75'0" Tare: 20 tons Capacity: 45 tons

Flat Wagons

RG - RGX — A flat wagon with a steel deck.
Length: 47'0" Tare: 20 tons Capacity: 55 tons

RLX — A flat wagon with a steel deck.
Length: 56'0" Tare: 22 tons Capacity: 53 tons

RMX — A flat wagon to carry three 20' ISO containers.
Length: 63'0" Tare: 21 tons Capacity: 52 tons

ROX — A flat wagon.
Length: 75'0" Tare: 25 tons Capacity: 50 tons

Motor-car Wagons

GC — An open wagon fitted with a frame to two decks for carrying motor car bodies.
Length: 70'0" Tare: 23 tons Capacity: 30 tons

GF — A GB wagon fitted with a frame to carry motor car bodies.
Length: 44'0" Tare: 20 tons Capacity: 45 tons

GNX — A two-deck motor-car wagon, to carry 8 to 12 cars.
Length: 73'3" Tare: 20 tons Capacity: 15 tons

Western Australian Railways

The West Australian railway system was all narrow gauge until the Kalgoorlie - Perth - Kwinana standard gauge line. For this line all new equipment was obtained. The WAGR standard gauge stock is painted golden yellow with black lettering and undergear and yellow bogies and couplers. These wagons are numbered in blocks in the 30000's. There are approximately 1100 wagons in service on standard gauge.

WAGR Rollingstock permitted into NSW

Covered Vans

WV - WVX A covered van with louvres along the top of the side. There is a centre double sliding door.
Length: 56'2" Tare: 25 tons Capacity: 50 tons.

Open wagons

WGX A smooth sided open wagon with two double opening doors.
Length: 56'0" Tare: 25 tons Capacity: 49 tons

Flat wagons

WF - WFX A flat wagon fitted with 12 stanchions each side.
Length: 54'2" Tare: 17 tons Capacity: 53 tons

WFCX A flat wagon to carry three 20' ISO containers.
Length: 63'0" Tare: 21 tons Capacity: 52 tons

Motor-car Wagons

WMX A two-deck motor-car wagon, to carry 8 to 12 cars.
Length: 73'3" Tare: 20 tons Capacity: 15 tons

South Australian Railways

The South Australian Railways operate five systems of three gauges; the main 5'3" gauge system in the south-east, around Adelaide, the 4'8½" gauge line between Broken Hill and Port Pirie, and three isolated 3'6" gauge lines at Peterborough, Gladstone and Port Lincoln.

The broad and standard gauges have bogie exchange to permit through loadings Both systems operate four wheel stock and plain bearing bogie as well as roller bearing bogie stock. Although most broad gauge stock is permitted to operate into Victoria, only roller bearing standard gauge stock is permitted into New South Wales. The remaining stock is intended for local traffic and operates to Broken Hill.

The SAR goods stock is painted grey with either black or white lettering and grey or black bogies. The new standard gauge ore and wheat wagons are painted yellow with black lettering. The SAR used a continuous numbering system on both broad and narrow gauge stock but all new stock built for all gauges has each code numbered from 1. The standard gauge goods stock numbers approximately 1000 wagons and the list given here is mainly new stock that is intended for interstate use. The broad gauge wagons have been used on interstate operation into NSW since bogie exchange commenced. There are many converted 3'6" wagons on standard gauge that have roller bearings and although intended for local traffic could be used in NSW if required.

SAR rollingstock permitted into NSW

Louvre vans

LX — A semi-louvred van with centre sliding doors.
Length: 40'2" Tare: 20 tons Capacity: 40 tons

Refrigerator vans

RX — A refrigerated van with two double opening doors.
Length: 36'0" Tare: 20 tons Capacity: 33 tons

Livestock wagons

SC — A cattle wagon.
Length: Tare: Capacity:

SS — A two-deck sheep wagon.
Length: Tare: Capacity:

Open wagons

OX — An open wagon with two double opening doors.
Length: 43'0" Tare: 18 tons Capacity: 44 tons

ELX-SGX — Very similar open wagons with vertical square corrugated sides and ends. There are two double doors each side.
Length: 46'0" Tare: 21 tons Capacity: 50 tons

SGC — An open wagon with two double opening doors.
Length: 42'0" Tare: Capacity: 30 tons.

Hopper wagons

SHBX — A curved sided wheat hopper wagon.
Length: Tare: Capacity:

Flat wagons

FBX — A flat wagon with five high stanchions each side.
Length: 45'0" Tare: 18 tons. Capacity: 54 tons

FPX A FBX flat wagon fitted with one fixed and one movable bulkhead at the ends, used to convey Pyneboard and particle board.
Length: 45'0" Tare: 20 tons Capacity: 52 tons

SFQX A container wagon.
Length: Tare: Capacity:

Motor car wagons

ALX A two-deck car carrier, to carry 8 to 12 cars.
Length: 73'0" Tare: 20 tons Capacity: 15 tons

OAX-OMX An open wagon fitted with a frame to give two decks for carring motor car bodies.
Length: 70'6" Tare: 21 tons Capacity: 35 tons

Brakevans

8300 A brake van with a 10'8½" goods compartment at both ends each with two sliding doors. The centre of the van has a6'0", 8 passenger compartment and a 9'3" guards area. There is a toliet and a desk in this area.

Length: 37'6". Width: 8'6" Height: 13'1¼" Bogie centres: 24'0".
Tare: 23 tons Capacity: 10 tons, 8 passengers
Bogies: Outside Equalised.
Number in service: 11 Road Nos: 8364-74 (standard gauge)

DEPARTMENTAL WAGONS

These wagons are for non-revenue traffic and maintenance work. They are divided into two groups:-

L wagons for the Mechanical or Electrical branches,
W wagons for the Civil (Way & Works) branch.

Each group is numbered from 1 and some specific use wagons have an additional code to the L or W code. While these specific use wagons are in both groups, most wagons are for general use. Although some new wagons have been built, most are older wagons and passenger cars withdrawn from normal traffic.

The main types of general purpose wagons include:-

employees' accommodation vans, consisting of sleeping and living vans, and breakdown vans mainly converted from old passenger cars of the side door non-corridor type and the end platform suburban type. There are also some larger cars in use.

store vans and breakdown vans converted from passenger and goods brake vans and covered and louvre vans.

wagons used for general departmental haulage, including open wagons of the S and U - K types and flat wagons of the E, BE, BF and KF types as well as older wagons now withdrawn from revenue service.

Mechanical Branch

Water Tanks	BF and S truck underframes fitted with 2000-3000 gallon semi-cylindrical tanks. K wagons fitted with 5000 gallon square tanks. BE wagons fitted with 7000 gallon semi-cylindrical tanks.
Locomotive fuel	DOT 7000 or 9000 gallon bogie diesel fuel tank cars. LCH, S and K wagons for locomotive coal. RU or K wagons fitted with round tanks for locomotive sand.
Breakdown Cranes	Crane wagons coupled to jib-carrying match truck.
Weighbridge testing	BF wagons ballasted with weights.
Wheel carrying	SWF, KWF and BWF wagons for carrying wheel and axle sets.
Shunting trucks	BF and S truck frames used as match trucks between screw coupled and auto coupled passenger cars and also to give a additional braking capacity when shunting goods wagons.

Electrical Branch

Wiring trains	OWV overhead wiring covered vans mainly rebuilt from passenger cars. They are fitted with extended flat platforms along the roofs for workmen. A flat wagon fitted with a frame for mounting cable drums is included in each set.

Civil Branch

Ballast hoppers	BBW 40 ton capacity bogie hopper wagons.
Ballast ploughs	BBP special crew accommodation brake vans fitted with centre-mounted underfloor ploughs.
Track maintenance	Various self-propelled cars used for track construction, maintenance or inspection work.
Rail carrying	BBE wagons coupled into sets of nine wagons of the BE or SCE type, to carry 330' lengths of welded rail.

PRIVATELY OWNED WAGONS

Privately owned wagons are in two categories:-

Private tanks mounted on NSWR flat wagons retaining the NSWR number and maintained by Railway Workshops.

Private wagons constructed for the various companies. They are maintained by contract, either to NSWR workshops or outside contractors, mainly Commonwealth Engineering, Tulloch Ltd and A.E. Goodwin. Each company has its own numbering system and the wagon code is usually based on the company's name. The wagons are checked by NSWRstaff and they have a NSWR register number as well as the company number.

NSWR wagons fitted with privately owned tanks.

BET a BE wagon with a 7050 gallon bitumen tank owned by Boral Ltd.

BHS a HME wagon equipped with tanks to carry sodium silicate.

BMF two 30' SE wagons, nos. 19025 and 21127, with a 5000 gallon milk tank each, owned by Hunter Valley Co-operative Dairy Company.

BMF an E wagon, no. 19012, with two 2000 gallon milk tanks, owned by Norco Co-operative Ltd.

LGF two UME wagons with tanks to carry liquid glucose, owned by Fielder's Starches Ltd.

MF nine S wagon underframes fitted with 12 ton capacity milk tanks, owned by Peters Creameries Ltd and the Fresh Food and Ice Company.

Industrial Railways

There are many industries throughout the state with private sidings off the NSWR. Some of these industries are large enough to require local haulage and have small shunting locomotives and wagons for internal use. These larger private railways include the following:-

BHP Newcastle

This company has an extensive locomotive and wagon fleet for use within the steelworks area. The wagons include general purpose flat and open wagons as well as coal, coke and iron ore hopper wagons. Special steel and molten steel carrying wagons are also in use.

There is an interchange yard with the NSWR at Morandoo sidings in Port Waratah yards. BHP owned CXD bogie coal hoppers and 4 wheel non air braked coal hoppers are operated in block loads by NSWR between the BHP owned mines and Port Waratah.

Coal and Allied Newcastle

This company owns and operates two private railways; the South Maitland Railway extending from East Greta, near Maitland, to the coal mines of the Cessnock area and the J & A Brown Railway from Hexham to the Stockrington mines.

The trains from these lines are handled by the N.S.W.R. on the main line to Port Waratah. This company's rolling stock consists of variously coloured and lettered four wheel 7 to 15 ton capacity non-air braked hopper wagons. The range of wagons is a by-product of the period when many different companies operated on the coal fields.

Australian Iron and Steel Port Kembla

This company is very similar to its parent company B.H.P. in Newcastle. Although its locomotive fleet is different to B.H.P., many of the wagons are the same. Some of the coal haulage is handled by A.I.S. locomotives over private railways direct from the mines to the steel works, but coal from mines north of Wollongong is hauled by the N.S.W.R. to Port Kembla. Some four wheel non-air braked hoppers are in use but most of the coal transporting is done in steel bogie hoppers or in curved sided Austen-50 steel hoppers similar to the N.S.W.R. PC

John Lysaghts Port Kembla

This company has two works in the Port Kembla area, at Springhill and the Commonwealth Rolling Mill near the town of Port Kembla. Private trains using Lysaghts' locomotives and rolling stock are operated over N.S.W.R. tracks between the works.

There is one brake van similar to the N.S.W.R. CHC vans and the rolling stock is similar to wagons operated by B.H.P. and A.I.S. and consists of 26 flat wagons, 34 flat wagons for carrying coil steel, 2 acid tank cars, 10 four wheel open wagons, and 68 four wheel hopper wagons.

The privately owned wagons operating in N.S.W. include:

Oil Tank Cars

Owned by the various oil companies: Ampol, Amoco, B.P., Caltex, Esso, Golden Fleece, Mobil, Shell, Total. These wagons were constructed by various contractors in batches for the oil companies and standard types are in service. The main types are:

Four Wheel 2,500-5,000 gallon capacity single compartment cars.

Bogie, underframed 5,000-10,000 gallon capacity in either single, double, or triple compartment cars.

Bogie, Underframeless 11,000-11,800 gallon capacity in either double or triple compartment cars.

Cement Tank Cars

These wagons are pneumatic discharge tank cars. The four wheel cars are centre flow discharge tanks mounted on LCH underframes and the bogie cars have 50 ton capacity Vee shaped tanks.

Milk Tank Cars

These are either BMT coded bogie milk wagons fitted with two 2,000 gallon or a 3,000 galon milk tank or MRC type vans fitted with internal tanks.

Liquified Gas Tank Cars

These are lettered 'Speed-E-Gas' and owned by Boral Ltd. There are six 36 ton capacity bogie tank cars numbered 400-5 and two 57 ton capacity six wheel bogie tank cars numbered 410-11.

Wine Tank Cars.

These five cars are owned by McWilliams Ltd. No.1 has 6,000 gallon capacity, Nos 2 and 3 have 6,200 gallon capacity,and Nos 4 and 5 have 6,700 gallon capacity.

Other Private Wagons include:

Tar tank cars
Acid tank cars

E & O.E.

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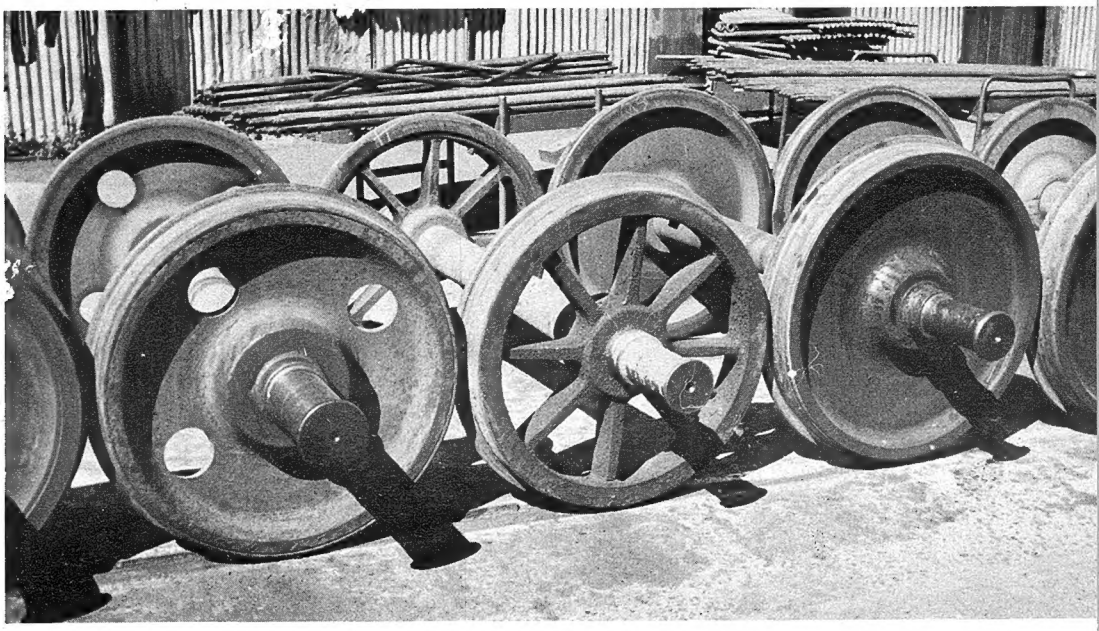

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The front cover photo shows 4442 at Casula before this section of line was electrified. Photo from N.S.W. Railways. Back cover photo by John G.Beckhaus. Cover design by J.J.Bevan.